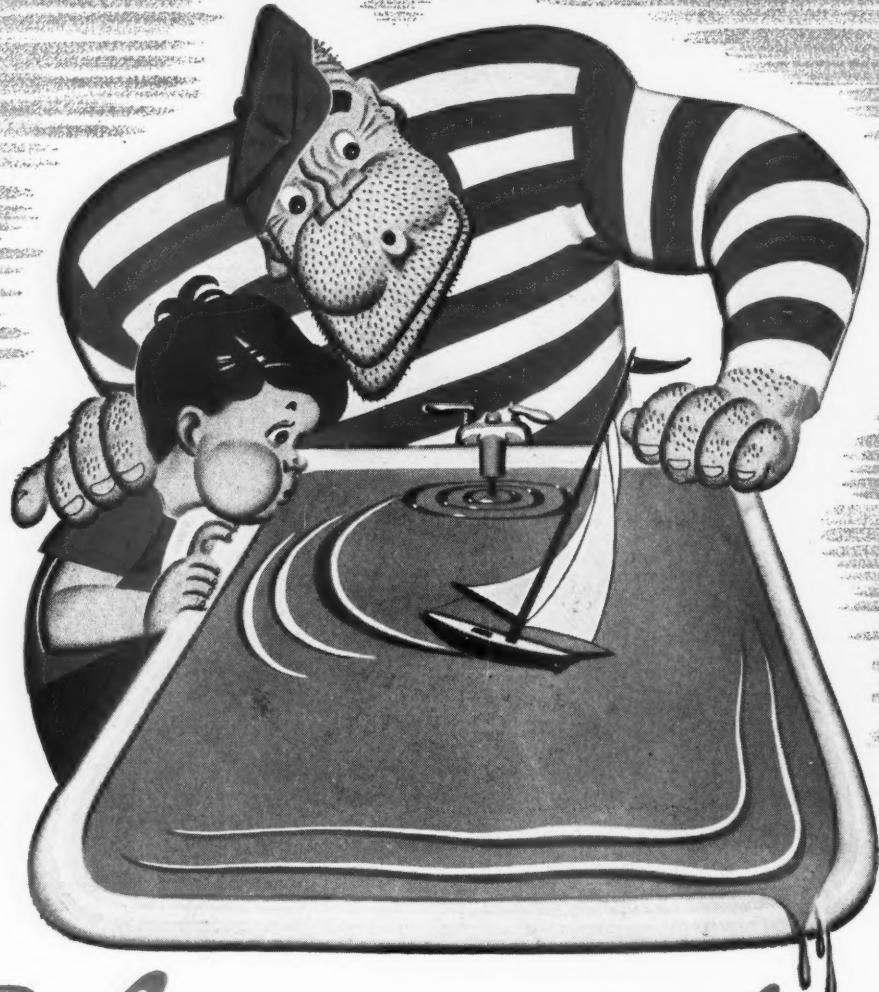


# MOTOR AGE



NOVEMBER 1945

O A CHILTON  
PUBLICATION



# Soft pressure does it!

- Every day thousands of aging and ailing engines get a new lease on life with the installation of Hastings Steel-Vent piston rings. No matter whether cylinder walls are worn and badly tapered, or rebored and straight, you can bank on Steel-Vent's soft pressure action for satisfying performance and longer engine life.

## HERE'S PROOF      SOFT PRESSURE DOES IT — IN REBORES TOO

*From out in rugged, western country comes this hard-to-beat testimonial by a construction company: "We own and operate a fleet of dump trucks which for the past two years has been working in airport construction under the most adverse conditions possible. We experimented with several makes of rings before coming to the ultimate conclusion that whether for re-ring or reboring, Hastings Steel-Vent rings have proven indispensable in keeping our trucks on a paying basis."*

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN  
Hastings Ltd., Toronto

**HASTINGS STEEL-VENT**

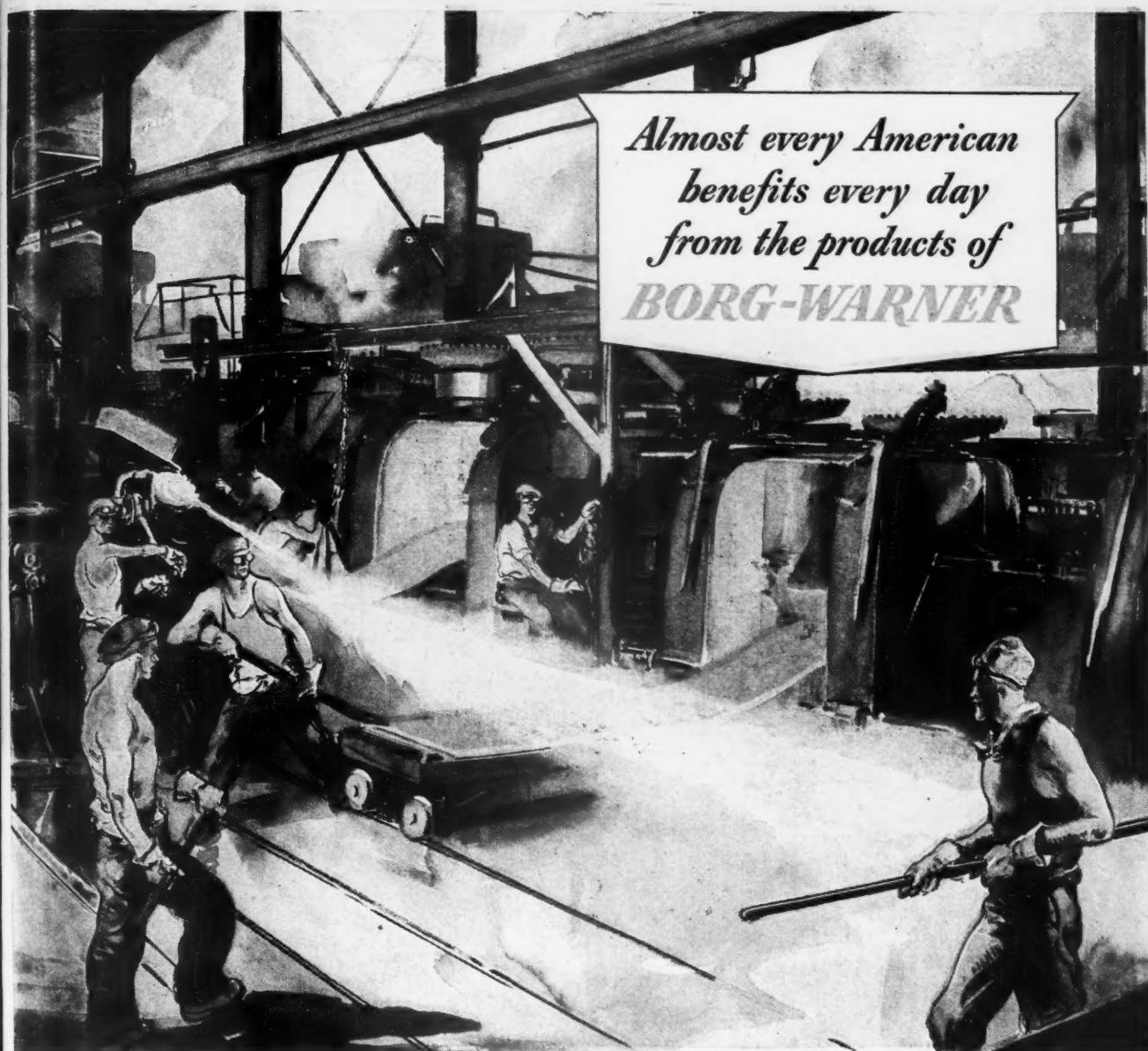


**PISTON RINGS**

U. S. PAT. 2,148,997

**TOUGH ON OIL-PUMPING GENTLE ON CYLINDER WALLS**

TECHNOLOGY DEPT.



*Almost every American  
benefits every day  
from the products of  
**BORG-WARNER***

"**SWORDS INTO PLOWSHARES**" as painted by James Sessions at the Ingersoll Steel & Disc Division at West Pullman, Illinois. Of the many interesting operations in this plant perhaps the most colorful is this rolling of high-carbon steel used in manufacturing disc plows, disc harrows, cultivators and grain drills. This great Borg-Warner unit is the world's largest producer of tillage steel for the farm implement industry.

Partners with the automotive industry from the start, Borg-Warner parts today are serving in 9 out of 10 makes of automobiles...

TRANSMISSIONS • TRANSFER GEARS  
OVERDRIVES • SYNCHRONIZERS • CLUTCHES  
CLUTCH SPRINGS  
UNIVERSAL JOINTS AND DRIVE SHAFTS  
FLUID COUPLINGS • CARBURETORS  
RADIATORS • TAPERED WHEEL DISCS



Down any country road you drive the chances are that the farm equipment in the fields is using Borg-Warner parts. For the making and shaping of tillage steel are special arts in which the Ingersoll Steel & Disc Division has pioneered for generations.

However, helping the nation to grow its "daily bread" is just one of many fields in which Borg-Warner plays an important role. The products and engineering ingenuity of the 28 plants which compose Borg-Warner benefit almost every American every day. For example, not

only are Borg-Warner parts found on 9 out of 10 farms, but also in 9 out of 10 airplanes and 9 out of 10 makes of automobiles. And Norge refrigerators, ranges and washing machines bring better living to millions of homes.

Innumerable great new advances by Borg-Warner will reveal themselves as American industry converts to peace-time production. For, then as now, Borg-Warner's guiding principle, "Design it better, make it better", will work in many ways to bring you ever better products at ever lower costs.

Makers of essential operating parts for the automotive, aviation, marine and farm implement industries, and of Norge home appliances . . . these units form Borg-Warner: . . . BORG & BECK • BORG-WARNER INTERNATIONAL • BORG-WARNER SERVICE PARTS • B-W SUPERCHARGERS, INC. • CALUMET STEEL • DETROIT GEAR • DETROIT VAPOR STOVE • INGERSOLL STEEL & DISC • LONG MANUFACTURING • MARBON • MARVEL-SCHEBLER CARBURETOR • MECHANICS UNIVERSAL JOINT • MORSE CHAIN • NORGE • NORGE MACHINE PRODUCTS • PESCO PRODUCTS • ROCKFORD CLUTCH • SPRING DIVISION • WARNER AUTOMOTIVE PARTS • WARNER GEAR



*You've got to make calls  
if you want to get Results!*

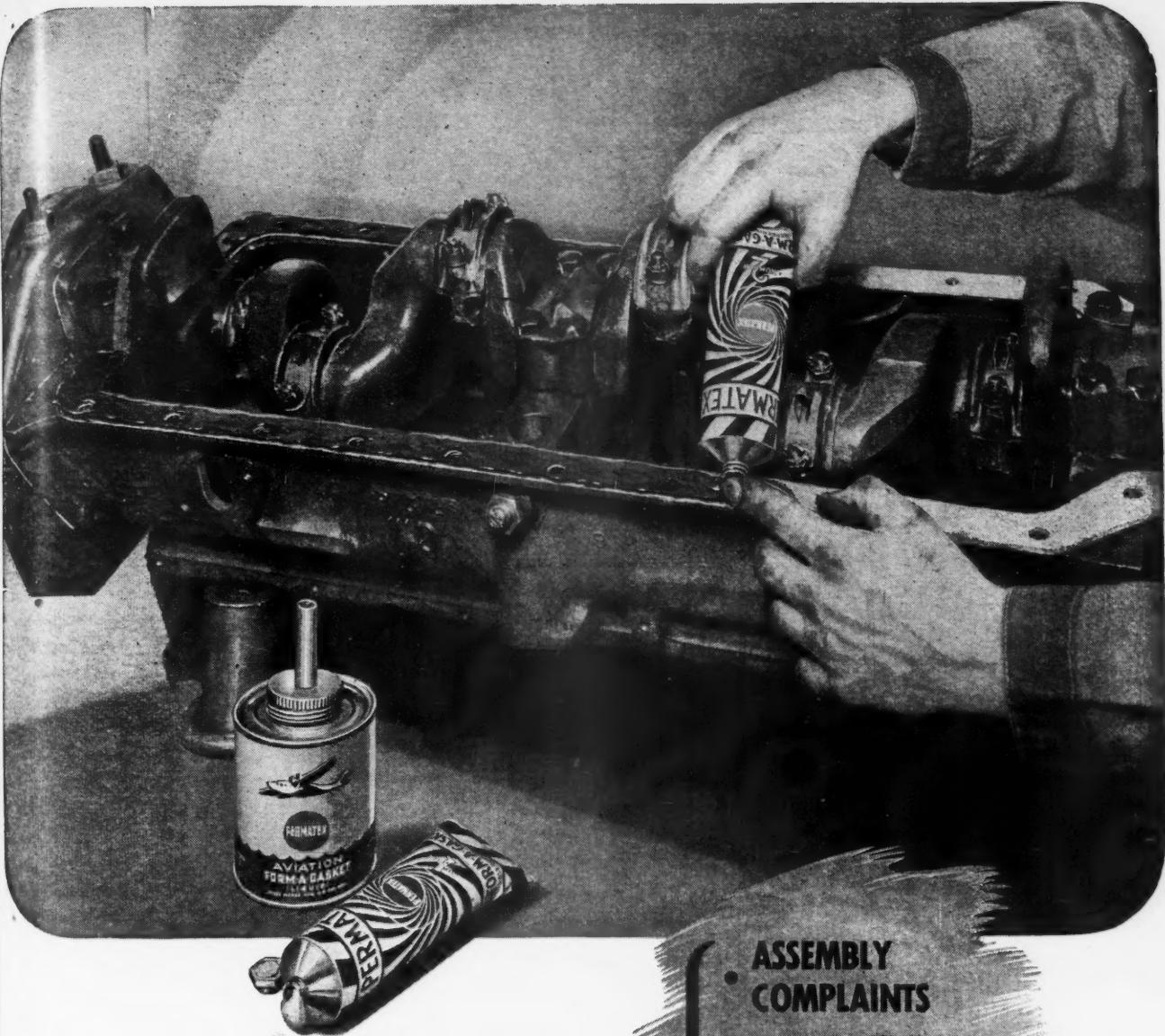
FARM JOURNAL with its 2½ million subscribers makes more sales calls every month than any other farm magazine. More by half a million. And the calls are made on the best prospects—families with the most money to spend. 81.4 percent of FARM JOURNAL circulation is in the "Top Half" counties of the U. S. A. The counties where farmers took in 81.4 percent of the nation's total farm cash income last year.

# Farm Journal

WORLD'S LARGEST RURAL MAGAZINE

GRAHAM PATTERSON, Publisher

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Why not make sure that all assemblies are leakproof and pressure tight?

No oil leaks . . . No water seepage . . . No compression losses. Form-A-Gasket holds tight against gasoline, kerosene, lubricating oil, grease, fuel oil, cold or hot water, salt water and anti-freeze.

Keep the "come backs" away from your door . . . Use Permatex Form-A-Gasket!

Form-A-Gasket No. 1 is a paste that dries fast and sets hard.

Form-A-Gasket No. 2 is a paste that dries slowly and remains pliable.

Aviation Form-A-Gasket is a heavy liquid that sets quickly but does not dry.

- ASSEMBLY COMPLAINTS
- OIL LEAKS
- COMPRESSION LOSS
- WATER SEEPAGE
- CORROSION
- HEAD SEIZURE

**PERMATEX COMPANY, INC. BROOKLYN 29, NEW YORK, U. S. A.**

NOVEMBER, 1945

When writing to advertisers please mention Motor Age

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THE TEXAS COMPANY



*A Great Line-up for Texaco Dealers:*

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MARFAK CHASSIS LUBRICATION • REGISTERED REST ROOMS • ALL NIGHT SERVICE

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## Spark Plugs

IGNITION ENGINEERED BY IGNITION ENGINEERS

*Why Sell Anything  
but the BEST!*

MONEY CANNOT BUY A BETTER SPARK PLUG

Auto-Lite spark plugs are designed by the same engineers who build the entire electrical system for many makes of our finest cars. This specialized ignition experience and know-how is one reason why Auto-Lite builds the best spark plugs money can buy.

To help your customers get economy and top performance, install Auto-Lite Spark Plugs—they're ignition engineered.

THE ELECTRIC AUTO-LITE COMPANY  
TOLEDO 1      Merchandising Division      OHIO



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# A RENDEZVOUS WITH VICTORY



PART legend, part history is the story of the Burgundian siege of Paris around 1474. Rebellion rite within the city, King Louis XI mingled in disguise among the people to get the "lowdown." Hearing Villon the "vagabond poet" boast that he could save France if he were King, even for one day, Louis offered to make him dictator, on condition that he hang the next day! "Surely," said Louis, "You would give your life to save your country!" Villon assented, the great trade was made and the poet's citizen army routed the Burgundians. Next day the King's kinswoman Catherine pleaded so ably that the King spared the hero's life. A great trade had saved Louis his crown!

You, too, will make a great trade if you will let your Jobber exchange your ailing fuel pumps for

Factory Tested  
**AIRTEX**  
FUEL PUMPS

Assembled with  
AIRTEX  
Diaphragms  
Guaranteed for  
50,000 Miles



"Your profits climb with the AIRTEX Line"

**AIRTEX AUTOMOTIVE CORPORATION, FAIRFIELD, ILL.**





You're never left high and dry with the  
**Delco-Remy Line**

ORIGINAL-EQUIPMENT PARTS

When you handle the Delco-Remy line, you know you'll never be left "stranded" for business. The tide is always in!

That's because the Delco-Remy line is a complete line of original-equipment parts . . . a line made up of all the Delco-Remy electrical units used year after year in the manufacture of America's leading cars, trucks and buses. Owners and operators of these millions of vehicles depend on Delco-Remy original-equipment parts for service and

maintenance. The demand is constant and continuing.

There's one more point about the Delco-Remy line you should know, and that's the fact that it not only provides fast-moving parts for rapid turnover, but also makes available small-demand parts for repairs on older-model cars.

All this is what you would expect of the recognized leader in automotive electrical equipment —yesterday, today and tomorrow. Your electrical service is on an even keel with Delco-Remy.

**DELCO-REMY ELECTRICAL EQUIPMENT FOR AIRCRAFT**

*Delco-Remy, long the leader in automotive electrical equipment, is now building electrical equipment for aircraft. Delco-Remy will make available the same strong merchandising and service support in this field as it has in the automotive field.*

**BUY VICTORY BONDS**



**A UNITED MOTORS LINE**

*Delco-Remy original-equipment parts are available through leading independent distributors throughout the United States.*

**Delco-Remy**

DIVISION, GENERAL MOTORS CORPORATION  
ANDERSON, INDIANA

**WHEREVER WHEELS TURN OR PROPELLERS SPIN**



## Inside an engine, Pedrick rings mean big gains in performance

IF YOUR ENGINES are calling for time-out, put them back into action, with plenty of power, by installing Pedrick *precisioneered* Rings.

Pedrick rings give engines new power because they fit exactly, preventing blow-by and loss of compression. Pedrick's exclusive Heat-Shaping process gives the right radial pressure at all points. Under this process the correct pressure is set for life in each ring.

Many of your customers have new vehicles on

order, but are still facing a critical problem in keeping old cars, trucks, and tractors going. You can help them keep equipment running by installing Pedrick rings in *guaranteed* Engineered Sets. They'll be pleased with the results, and satisfied customers build steady business.

• • •

WILKENING MANUFACTURING Co., Philadelphia 42, Pa. *In Canada:* Wilkening Manufacturing Co. (Canada) Ltd., Toronto.

**Pedrick**  
*precisioneered PISTON RINGS*

Finish the Job. Buy VICTORY BONDS  
... For This Final, and Vitally  
Important Campaign

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CHRYSLER

DE SOTO

OLDSMOBILE

FORD

CADILLAC

Ready to use...

PACKARD

CHEVROLET

DODGE

PONTIAC

HUDSON

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## There is a Grey-Rock Balanced Brakset for every make and model

Your Grey-Rock jobber also has WYRBAC sets for those economy jobs. You will find that they deliver as good braking as any one type of lining on all shoes can give you.



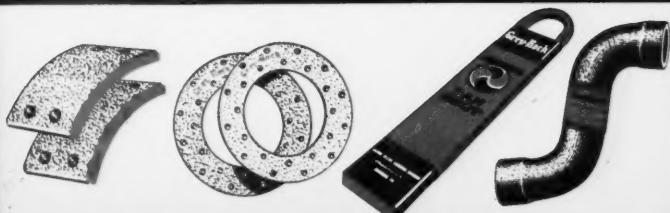
Grey-Rock Balanced Braksets are factory-combined from many different types of molded and woven materials. You will get the ONE combination out of 55 different factory-selected and individually packaged Braksets to provide the right braking action for your next reline job . . . a Brakset which is already drilled and countersunk and ready for a quick, workmanlike and profitable brake job. See your Grey-Rock jobber for the correct Balanced Brakset for any make or model car, and for the latest brake servicing information including National Safety Council standards.

★**CLUTCH TROUBLE AHEAD:** The focal point of much mechanical trouble this winter will be clutches. See your Grey-Rock jobber for the famous Vee-Lok and other Grey-Rock clutch facings.

**TO MAKE VEHICLES LAST, PUT QUALITY FIRST**

**Grey-Rock**

BALANCED BRAKSETS • FAN BELTS  
BLOCKS • CLUTCH FACINGS • HOSE



UNITED STATES ASBESTOS DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.

# A Chrysler-Plymouth Dealership

---

## will be worth STILL MORE!

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FOR nearly four years now . . . the lean years of war . . . the exceptional value of the Chrysler-Plymouth dealership has been evident.

Factory approved parts have been available to keep Chrysler cars running.

Highly trained field men have provided wise counsel on all phases of the dealers' business.

Thus, the loyalty of Chrysler-Plymouth owners has blossomed.

*The near future will reveal fresh evidence*

*of outstanding possibilities in Chrysler-Plymouth dealerships in all sections of the country.*

. . . And that's only plain common sense.

For if Chrysler-Plymouth dealerships have been doing outstandingly well during the trying conditions of the past few years . . . imagine for yourself the kind of profits that will pile in . . . with the new improved Chryslers and Plymouths rolling into their showrooms . . . and more and more loyal customers being made every day.

## CHRYSLER

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DIVISION OF CHRYSLER CORPORATION





*People want to get a kick out of driving again!*

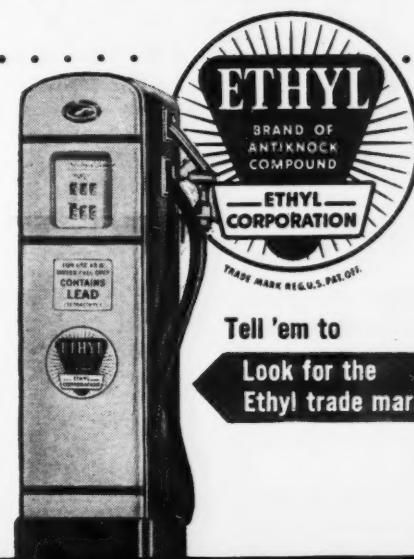
## Ethyl is back! You can now advance ignition timing for more power and performance

Back when the best gasoline was going overseas, many motorists had their engine spark settings retarded to prevent knock.

Now they can get all the Ethyl they want . . . and you can advance the ignition timing to take advantage of the high antiknock quality of Ethyl.

What's more, make it standard practice to see that the timing's advanced for best power whenever you tune or overhaul an engine.

Ethyl Corporation, Chrysler Building, New York, N. Y.



For modern performance with modern gasoline—keep spark setting up to date.

*don't say*



**MAKES THE**  
\* "INDIVIDUAL TUNING" TO EACH



**FIT**

**...For Double-Quick, Profitable Installation**

Walker Silencers are "Individually Tuned" to meet every replacement requirement with *perfect fit*. Exactness of design is built into every Walker Silencer. "Individual Tuning" means Walker Silencers fit—every time.



**PERFORMANCE BALANCE**

**...For Restoring Engine Efficiency**

Walker engineers know that slight variations in back-pressure affect operating efficiency. Walker Silencers are "Individually Tuned" to meet individual characteristics of design and performance of each make and model of car to restore performance and gas mileage.

"Muffler" say

# WALKER SILENCER

• Now you're talking about extra quality . . . a line with a real reputation and acceptance—for Walker Silencers are the largest selling replacement mufflers in the world.

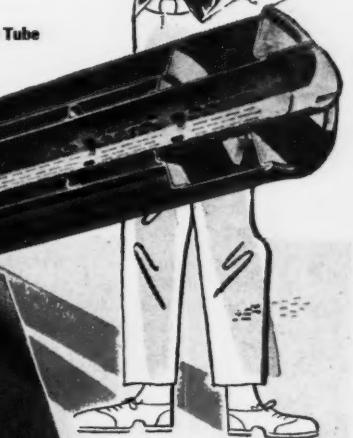
Now you're talking about the best exhaust system service . . . a service that labels you a smart dealer with the stamp of customer approval—for Walker Silencers are "Individually Tuned" to meet the specific exhaust requirement of each make and model of car.

And you're talking about a nationally known product . . . a product your customers know about and want—for Walker Silencers are advertised in *The Saturday Evening Post*, year after year.

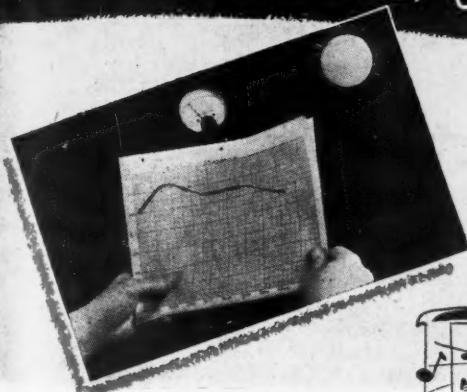
It's easy to build a sound, profitable business with a top quality line. That's why it pays to be identified with the leader. So, don't offer "just mufflers" . . . sell WALKER SILENCERS.

WALKER MANUFACTURING COMPANY OF WISCONSIN, RACINE, WISCONSIN

Also Makers of Walker Jacks and Electric Lifts



## DIFFERENCE MAKE AND MODEL OF CAR



### ACOUSTICAL BALANCE

... For Maximum Quietness

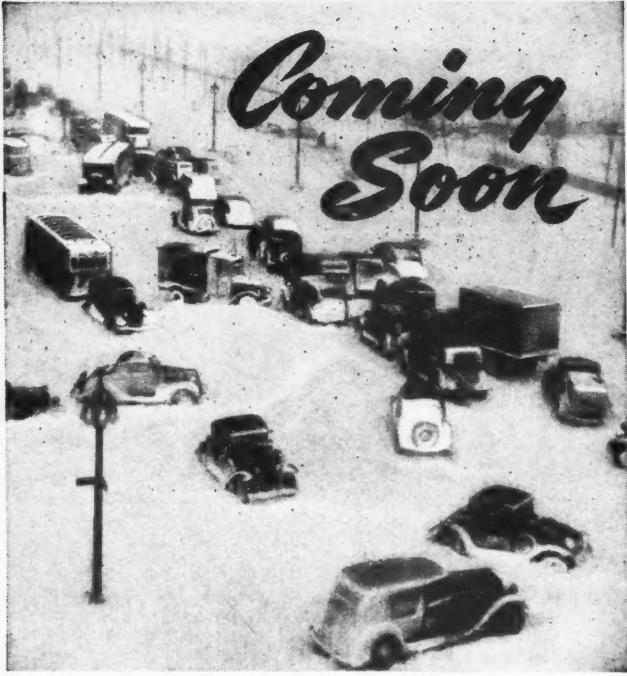
Maximum quietness and driving comfort can only be achieved through proper acoustical balance of all phases of exhaust sound. Walker Silencers are "Individually Tuned" to control all phases of exhaust noise within rigid tolerances of noise fatigue.



### CORROSION BALANCE

... For Maximum Durability

Different materials are needed to meet specific corrosion problems of different motors . . . to make the inside and outside of a muffler equally wear-resistant. Walker "Individually Tuned" Silencers are constructed to assure corrosion balance for long, efficient service.



*Get 'Em Ready With  
Weather-Proof*

## KESTER CORED SOLDERS

**Repairs made the Kester Way Hold Tight under all temperature extremes**

- No matter how tough the weather, you can depend on Kester Cored Solders to make repairs that are permanent—that hold tight against the expansion and contraction of weather extremes, as well as general shock, vibration and bending. That's why top-flight mechanics and garage men everywhere use *Kester Acid-Core Solder* for general all around jobs, and *Kester Rosin-Core Solder* for electrical work.
- Kester Cored Solders always get better results because the flux is right in the core, scientifically balanced with superior alloys, so that they are applied in one simple operation—no chance for errors—no bother with messy separate fluxes.
- You'll not only build a fine reputation for prompt, dependable service with Kester Cored Solders, but you'll also cut shop time and repair costs to a minimum. Order from your jobber today!

★ BUY VICTORY BONDS ★

KESTER SOLDER COMPANY

4242 Wrightwood Avenue, Chicago 39, Ill.  
Eastern Plant: Newark, N. J.  
Canadian Plant: Brantford, Ont.



# MOTOR AGE

With Which Is Combined AUTOMOBILE TRADE JOURNAL

## FOR AUTOMOTIVE SERVICEMEN

Vol. LXIV, No. 12

November, 1945

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# PROFIT 3 WAYS WITH WEED CHAINS ALL WINTER LONG



## Start Now on Weed's Three-Way Profit Plan

• You can make substantial tire chain profits all winter long—if you start now on WEED's *three-way* plan.

Cash in on all three WEED TIRE CHAIN profits:

1 • Repair chains with WEED CHAIN repair tools listed below.

2 • Service chains. Putting chains on is a standard service, like changing tires.

Charge for it accordingly.

3 • Sell WEED CHAINS. Order now. Chain supplies are very limited.

Short supplies of tire chains needn't cut into your profits . . . if you push *all three*. Put up your WEED CHAIN signs and let your customers know you can give them genuine WEED CHAIN service. And start getting your *three-way profits* now!

### You'll Need these Weed Chain Repair Items

- ★ Weed Sturdy Pliers—for passenger car chains
- ★ Weed 711 Pliers—for passenger car, truck, and bus chains
- ★ Weed Chain Repair Tools
- ★ Weed Cross Chains

**ACCO**

York, Pa., Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.



AMERICAN CHAIN DIVISION  
AMERICAN CHAIN & CABLE

In Business for Your Safety



# For Oil Control Also



## of Sealed Power Piston Rings

Balanced piston ring performance means—oil control, blow-by control (gas saving), low friction and minimum wear. Sealed Power engineers have developed twenty-six (26) basic designs of piston rings for use in Sealed Power Individually Engineered Ring Sets—to help you assure balanced performance in every ring replacement job, for any make of engine with any degree of cylinder wear. Sealed Power has been refining these sets for six years, has been producing rings for car, truck and engine manufacturers 34 years. For balanced performance; making every customer a friend, re-power with Sealed Power motor parts. Sold by America's Leading Distributors. Sealed Power Corporation, Muskegon, Michigan and Windsor, Ontario.

Piston Rings, Pistons, Cylinder Sleeves, Piston Pins, Valves, Water Pumps, Bolts, Bushings, Tie Rods, Front End Parts.

Keep your war bonds! Get \$4 for \$3!



INDIVIDUALLY  
ENGINEERED

## SEALED POWER PISTON RINGS

BEST IN NEW CARS! ★ BEST IN OLD CARS!

## NEWS BULLETIN

★ The battle to preserve the traditional dealer discount came out in the open November 8 before the House Small Business Committee. NADA has been gathering facts and making plans for this showdown for many months.

NADA's President Mallon appeared before the Committee and presented the dealers' case. Members of the Congressional Committee complimented Mallon on the completeness of his report which they admitted proved to them that the dealers had cause for protest.

At a recent hearing several dealers from all parts of the country appeared before the Committee and told of the disastrous effect any discount cut would have on their operations.

All who attended the hearings are agreed that NADA scored in a large way and has presented facts and figures that OPA will have great difficulty in refuting.

★ Truman's recommendation of a 20 per cent raise in salaries for Government employees will tend to further intensify inflation.

★ Four things that are engaging the attention of official Washington at present are inflation, Russia, labor, and last but not least, the atomic bomb. Many are claiming that the atomic bomb is one of the underlying reasons for the great advance in the price of farm land—urban dwellers forsaking the bright lights of the metropolis for the comparative security of lush acres in the country.

★ Dealers and independent shops are continuing the fight against SSR-49. But observers feel there is little chance for immediate success.

★ Following a 16-month study of the Federal Tax structure, Dr. H. L. Lutz, for the Committee on Post-War Tax Policy, has recommended the repeal of Federal gasoline and automobile use taxes.

★ Prevailing opinion in Washington is that extensive unemployment will prevail next Spring, but by Fall, normalcy will be with us.

★ You can expect a census of business every five years instead of ten as at present.

Oil companies in laying plans for post-war business are designing new stations, but all those viewed to date are of a conservative design without any Buck Rogers or Superman influences.

★ Some observers feel that John L. Lewis' next move will be to seize control of automotive industries.

★ Rumors that ceilings on used cars were about to be dropped are, for the present at least, without foundation. However, in many centers, there is an increasing number of sales at less than ceiling prices and these may reach landslide proportions by the turn of the year.

★ Automotive plant expansion is expected to reach the one billion mark. Meanwhile, gray iron castings, in addition to labor, are a reconversion bottle neck.



## **Dealers Must Absorb Price Increases, Says OPA**

AUTOMOBILE dealers will have to absorb any price increases on new cars up to their 1941 realized dollar margins, according to OPA Administrator Chester Bowles. While admitting that the auto dealers will fight "cost absorption" to the limit Mr. Bowles said that there will be no exception in this or any other case affecting reconversion items.

Mr. Bowles added that while the pre-war markup on automobiles averaged 24 per cent, this was brought down to about 12 per cent by losses from trade-ins. He said that taking \$1,000 as a hypothetical figure for the price of new automobiles dealers expected to make \$240 profit, but that OPA planned to hold the margin to the actual realized '41 profit, which would be somewhere around \$120 to \$130. The OPA Chief believes that with the present market value on used cars trade-in losses will be minimized and dealers will make considerably more than they did in 1941.

## **Higher Octane Fuel To Benefit Public**

BEFORE this issue is in the mails at least one of the major oil companies will be selling gasoline of materially higher octane than the pre-war fuel. Whether this is the start of an octane race is anyone's guess. But undoubtedly other refiners will follow suit and the car owning public will reap the benefit of better acceleration, improved performance and increased fuel economy. However, to secure these advantages, spark timing must be checked and in many instances an advanced spark can be used.

## **American Vehicles in Demand in Europe**

STRONG evidence that American autos, trucks and jeeps are in demand on the European continent since their successful role in the part they played in winning the war was revealed recently.

New military jeeps are being disposed of in Paris through the American Navy Liquidation Commission for \$1,300 each, while used jeeps sell for \$1,050, according to the Willys-Overland Company.

**New car production is taking shape despite labor difficulties and parts shortages. Most companies are already producing cars to some degree and are getting their schedules in line. For a picture of what's happening in the auto plants, see page 21 of this issue of Motor Age.**

Basic price in the United States for the new civilian counterpart is \$1,090.

While there is no further word on other surplus vehicle sales negotiations are under way to sell American vehicles to the Allies. It is safe to assume that these will bring fancy prices because of the superior craftsmanship of American automotive engineers, designers and workers. And this knowledge rankles the British auto industry.

## **Federal Highway Project To Aid Entire Nation**

IN giving the green light to the 3 billion dollar post-war federal aid highway program, the Senate is aiding the entire country. Not only is work provided for labor engaged directly on the highways, but also for the car factories, dealers and maintenance men all over the nation. Furthermore, real estate values will be increased and the country as a whole benefited.

## **WPB Gives Way To New Agency**

PRESIDENT TRUMAN has abolished WPB effective Nov. 3 and turned over its few remaining functions to a new agency to be known as the Civilian Production Administration. J. A. Krug, head of the WPB, has resigned, and the new agency will be under the direction of J. D. Small, WPB chief of staff.

## **General Motors Hands Wage Answer to Union**

AS MOTOR AGE went to press, a word had been received that General Motors had handed its answer to the union's demand for a 30 per cent wage increase. C. E. Wilson, GM president, issued a statement in the form of a release to the press.

Referring to President Truman's speech on Oct. 30, the report stated: "This order (Executive Order No. 9651) modifies previous executive orders and particularly gives authority for recognizing, as effecting costs and prices, any current wage increases necessary to make the percentage increase in average straight time hourly earnings since January, 1941, equal to the percentage increase in the cost of living between January, 1941, and September, 1945."

Stressing that the new Executive order was part of the country's wage stabilization policy, General Motors, under the policy, is now offering to the unions increased wage rates by "classification" which since 1941 have not been increased in proportion to the cost of living as determined by the government.

"Whether or not the cost of living," the report stated, "and basic wage rates can be kept in line in

# SLANTS on the News

the future will depend on whether or not the people of our country are willing to work for the things they would like to have."

What the union's reaction to the GM announcement will be will largely determine when the shackles will be pulled off production lines.

## Surplus Sales Ruling Designed for Speed

THE Surplus Property Board has announced a new surplus property disposal regulation designed primarily to speed and simplify sales. Its purpose is to set up reserves of surplus property aimed at preferential buyers—federal agencies, states and municipal offices. The balance earmarked to be sold speedily.

In the past, disposal sales to purchasers like dealers were delayed for a period of more than 30 days in order to permit buyers with priorities first call on property to be sold. With the new regulation in effect, purchasers from state agencies will bid with dealers at vehicle spot sales. Such bidders will not be granted priority ratings.

## Motor Age Adds New Subscribers

LIFTING of restrictions on paper has already made possible the addition to MOTOR AGE circulation of several thousand subscribers whose applications had been held up during the war. It is a pleasure to pass along the assurance of the publishers that the plan is to increase the circulation of MOTOR AGE as much and as rapidly as possible, without relaxing in the slightest degree the publication's standards of quality or its method of careful selection.

## New Car Prices

While new car prices announced as Motor Age went to press indicate that the dealers will have to, in some instances, absorb the increases up to 4 per cent of their discount, the dealers undoubtedly have won a major victory in their fight to maintain their discount. This becomes apparent when it is recalled the O.P.A. entered the fight to establish car prices with the statement that dealers could absorb new car costs up to 50 per cent of their margin.

The importance of the fight put up by the N.A.D.A. cannot be overestimated as the O.P.A. would have used its successes as a precedent when regulating other industries.

It is expected that the dealers will continue their fight.

## Huge Surplus Stocks Go to Auto Companies

AUTOMOTIVE manufacturing companies have already purchased more than \$20 million worth of surplus standard automotive parts from warehouses and stockpiles of the Surplus Automotive Parts Office of the Department of Commerce. It is reported that sales are increasing rapidly. The Detroit representative of the Department of Commerce estimates that the total supply of such surplus parts may be worth nearly \$1 billion.

## Chrysler Corp. Spending \$57 Million to Reconvert

CHRYSLER CORP. is spending \$57 million on reconversion of facilities for car production and an additional \$18 million for extensions to existing plants. At the Plymouth plant not a single machine will occupy the same place it did during prewar operations. Two new assembly lines have been completed. Daily output at the peak will be 2160 cars at the Detroit plant and nearly another 1000 at the branch plants at Evansville, Ind., and Los Angeles.

## Unrationed Tires By January 1st?

THERE are still strong possibilities that tires will be taken off the ration list by January 1. In this connection passenger car casting production rose from 1,938,650 units in July to 2,485,634 units in August. This is an increase of 28.2 per cent.

This production is far in excess of the normal peace-time average monthly rate for 1940 which was 492,962 casings manufactured.

Coincident with the release of this data by the Rubber Manufacturers Association came a statement from Goodrich that their new post-war synthetic tire was on a par with the pre-war natural rubber tire. While from the War Production Board came the statement that the use of high tenacity rayon cord in synthetic tires had been extended to include all smaller size of synthetic truck and bus tires.

## Assembly Lines in Action Despite Labor Trouble

DESPITE storm warnings of impending strikes, several automobile companies are swinging rapidly into production of 1946 models. Current output stands about as follows: Ford, 400 cars per day; Hudson 120 per day; Pontiac, 150 per day; Oldsmobile, 100 per day; Buick, 200 per day; Cadillac, 25 per day; Chevrolet, no daily production figures available, but 1100 cars had been completed by Oct. 19, and output is climbing at branch assembly plants. Packard is getting underway. Nash is getting started. Plymouth is expected to be going in another week or 10 days, with other Chrysler divisions to follow.



# Chevrolet Announces New Models



**Modern styling characterizes the new Chevrolet which is being offered in three models, the Stylemaster, the Fleetmaster and the Fleetline accentuating massiveness in design**

**M**ODERN styling that accentuates massiveness in smart, low, sleek lines characterizes the new 1946 models of Chevrolet. The new vehicles are presented in three lines, including the Stylemaster, the Fleetmaster and the Fleetline, most attractively styled model that Chevrolet has ever offered.

For every regular model there is a choice of six different color schemes.

The new front bumper of greater depth and height and with lengthened ends that extend further around the fenders, not only offers better all 'round protection but also contributes most importantly to the new appearance of sturdiness and advanced styling. It is of sturdy modified V-section with the apex of the V near the bottom. The large, simply designed grille guards are widely spaced on the bumper, improving appearance and affording added protection.

Engines in the new cars will be equipped with light-weight cast alloy iron pistons. Contributing further to engine power and economy is the cooling system, employing a ribbed-cellular radiator core whose square shape permits efficient coverage of the radiator core by the fan. A ball-bearing water pump is self-adjusting and permanently lubricated. Uniform cylinder cooling is provided

by full-length water jackets extending completely around each cylinder. Scientifically-located nozzle jets around the exhaust valve seats, in the head, concentrate cooling effects at points where the need is greatest.

A vacuum-power gear shift finger tip control is standard throughout the 1946 models, assuring easy control of the cars under all operating conditions.

The chassis frame used in all new passenger models is the box girder type with side rails and cross members of flanged box section construction, insuring exceptional rigidity. In cabriolets, box girder side rails are further reinforced by "V" and "K" shaped I-beam girders.

Knee-action is continued on all 1946 cars. A ride stabilizer at the front-end contributes further to easy handling and greater comfort.

The semi-floating type rear axle, with gear ratio of 4.11-1, has hypoid drive gears and six ball and roller bearings.



## Labor and Shortages Hamper Auto Production

WHILE still beset by labor troubles and shortages of materials, the automobile industry is beginning to bring order out of the chaos of reconversion. Most of the companies in the industry already are in production of cars to some degree, and all of them will be running within a very short time.

Here is how the situation shaped up about October 20 when newsmen from throughout the country visited automobile manufacturing plants in the Detroit area as part of a nationwide tour to study reconversion.

All General Motors divisions were in production. Buick was operating at a rate of 100 cars per day, with production expected to step up to 200 daily by the end of the month. November schedules call for 500 daily or a total of 10,000 cars for the month. The production rate will continue to climb to a peak of 1800 cars a day, which is expected to be reached by next March. (All production estimates given in this article are based on the assumption that labor and materials troubles will not interfere.)

Cadillac started operations in mid-October at the rate of about 15 cars a day, and expects to build about 5000 cars yet this year. Production will reach 320 a day by March, with output the first full year expected to hit approximately 60,000.

Production at Oldsmobile started Oct. 15 and output was crowding 100 cars a day by the end of the first week. The division planned to build 2500 cars in October, and to

**Auto industry beginning to bring order out of  
chaos of reconversion and labor trouble whirl**

**By LEONARD WESTRATE**

double production in November and again in December. A rate of 1300 cars per day is expected to be attained by next March.

Pontiac Division was clipping along at 150 cars per day on Oct. 20, with plans to double output in November and to triple it in December. Production is expected to hit 30,000 cars a month in February, or 1800 per day.

Chevrolet Division, which heretofore has been extremely secretive, announced that it had completed about 1100 cars by Oct. 20, and expected to build more than 9500

*(Continued on page 48)*

# Selling



FUNDAMENTAL requirement of any business is to know your market, know its potential, know where customers live, and where to go for prospects.

In no other industry can this be learned with more thoroughness than in the automotive industry, which is unique in that records are maintained of all car registrations in each state, and organizations exist which compile those records and make them available to car dealers and independent service shops. The auto industry is the only industry in the world in which it is known who is buying the product, when they buy, what they buy, and where they live. Other industries must collect this kind of market information through hundreds of various retail outlets—an expensive, uncertain job. They cannot reach their owners or prospects direct, without waste, because they don't know who they are.

An up-to-date car owner list of every owner in the sales area served by a dealer or repair shop thus becomes one of the primary sales weapons. Yet a recent survey of 10,000 dealers by R. L. Polk & Company, checking with hundreds of auto dealers, showed an average of only 66.4 per cent of dealers have an owner list, and of that number only 21.2 per cent said their list was 100 per cent complete. The average list today is less than 48.6 per cent complete, due, it is surmised, to the fact that during the war years dealers did not maintain accurate lists.

**Car owners lists aid dealers  
and increasing business volume**

# Service by Direct Mail

Furthermore, car registration statistics were not compiled in 1942 and 1943 and only recently have the 1944 registrations been made available.

During the war years, 3,586,089 of all makes of cars disappeared from the highways, a drop of 10.09 per cent since 1941. Total car registrations nationally amounted to 24,114,922, Polk recently reported, as compared with 27,700,011 in 1941. In other words, cars were "dying" at a rate of more than 3,365 a day. The dealer who knows his own market accurately is a rare individual, even as we pause on the brink of entering new car sales again.

The first report of car registrations since Pearl Harbor reflected big shifts in car ownership locations. Some dealers working with old car owner lists may be surprised to learn they have a lot more owners in their trade area now than they had in 1941, while others will find ownership has decreased. One key county in Ohio, for instance, lost more than 10,000 car owners, while another county picked up nearly that number. There were actually more cars in California, Utah and Oregon registered in 1944 than in 1941, reflecting the war production activities in those states. In New England and the midwest a drop in car ownership was reported.

An up-to-date car owner list provides an opportunity to improve not only new car sales, but also service solicitation records, and to assure new prospects to replenish used car stocks. Dealers use the lists also for sales analysis, personal sales calls, telephone solicitations, direct mail contacts and service contacts.

The obvious way to use a car owner list is through the

medium of direct mail—making the calls a dealer does not have the time to make. Sending direct mail in a continuing, regular schedule to these customers and prospects keeps the dealer in touch with the market he wants to reach, reminding them of his location, his products, —his services, and keeping them sales-minded. Good will builders can be converted into top-notch sales aids. Many dealers do this with lubrication reminder charts or service suggestions. With new cars coming back on the market, the 1,000 mile, 2,000 mile and 5,000 mile check-up offers an opportunity to establish cordial relationships with owners on a continuing basis.

During the war many progressive establishments used mailing pieces to supplement manpower and to get and hold service business. They found that, used consistently, direct mail aided in bringing in customers more frequently for profitable labor services. Factory-supported direct mail campaigns are being planned to help introduce new cars and help re-contact owners. In several cases owner magazines are being revived, to be mailed to car owner lists. The list permits the dealer to contact owners of all 1938 through 1942 models, for instance, or even earlier years.

Another use for a car owner list is in providing a definite list for personal follow-up by salesmen. One tried and true method is for the dealer to send out a folder or mailing piece in advance of a salesman's visit. Each salesman is thus pre-sold; the prospect expects him. To sell a new or used car, the prospect must be met per-

(Continued on page 60)

and operators in maintaining  
through direct mail service





Side view of the 1946 Packard Clipper. Below, new styled radiator grille has been incorporated in the new models.

## New Packard Models Introduced

**Clipper Eight and Deluxe Clipper Eight  
to be featured in four-door sedan styles**



THE Packard Motor Car Co. has announced that the first public showings of their new models would be made at regional dealer meetings scheduled in early November.

Owing to the problems of initial production, output for the rest of this year will be concentrated upon two basic models—the Clipper Eight and the Deluxe Clipper Eight, both mounted on 120 in. wheelbase chassis. These will be

available in four-door sedan bodies only. Full details of other models and additional body styles will be given later. According to George T. Christopher, president, production during the rest of this year would be about 8000 cars; later production will be augmented to include models in four price ranges.

The initial models feature the familiar Packard straight eight engine—8-cyl., in-line, L-head,  $3\frac{1}{4}$  in. bore by  $4\frac{1}{4}$  in. stroke, 282 cu. in. displacement, developed hp. is 125 at 3600 rpm. The engine remains the same in specification details but incorporates two major features. One is the adoption of the Moraine Div., Durex No. 300 sintered type precision bearing for the main and connecting rod bearings. Bearing coating is a thin section high lead babbitt.

The other feature marks the first use of the Perfect Circle Type 86 oil ring, representing the culmination of development work dating back to pre-war years. It has a coil expander spring instead of the flat formed springs commonly employed. Among the claims for this ring are the following:

1. Uniform radial pressure distribution through the application of the principle of circumferential expansion. The radial pressure of the ring results from the compression of the long, soft, coil spring.

2. Loss of unit pressure as the ring wears is very low.  
*(Continued on page 84)*



## Brightening Up Shop Floors

**Light colored floors can increase undersurface lighting in shop work and aid in better jobs**

**By FRANZ SERDAHELY**

**G**REASE-STAINED, dark floors of automotive shops have contributed to more poor maintenance work than most operators realize. A mechanic, lying flat on a creeper beneath the car he is repairing, is straining his vision in a state of semi-darkness, despite the fact he has a high-watt extension light at his elbow! All of the light coming from overhead is being absorbed by the dark concrete floor. It is therefore important to have light colored floors and also to keep them clean.

In hundreds of airplane plants, observations showed that poor undersurface lighting was actually holding back production because workers were working in a state of semi-darkness near concrete floors. After many tests and experiments, illumination experts advocated the use of white cement floors. These were to act as giant reflectors and diffusers of light.

After installation, it was reported that in a Texas plane plant, the white cement floors reflected 61 per cent more light on undersurfaces of wings and fuselages than the

ordinary gray concrete floors formerly used. Light on vertical surfaces was increased 20 per cent. Production figures showed an actual increase following this plant improvement.

Now that the automotive maintenance industry is in the process of reconversion, attention is being focused on improvements in shops, equipment and building maintenance. In the June, 1945, issue of *MOTOR AGE* (*Color Can Step Up Your Shop Work*), the subject of eye fatigue, resulting from incorrect selection of color for walls and ceilings was discussed. The subject of undersurface lighting is equally important.

However, while some shop owners are in favor of white concrete floors, others prefer to paint the existing floors. And in this connection there are some newly developed paints available which are especially adapted for the rough work of a repair shop floor.

The problem of brightening up a pitted, dark concrete  
*(Continued on page 64)*



## KEEPING COOL When

POP O'NEILL pushed the button to lower the door behind the New York car that had driven out a moment before. "That's the kind of a bird," he said, "I hate to see come in the shop—always got a chip on their shoulder, expectin' every repairman to rook 'em. If they only knowed it, all they do is tempt an honest repairman to take them for a sleigh ride."

"He'll probably be surprised," said Tommy Winters, Pop's apprentice mechanic, "when he finds out we did the job right."

"You hope we done it right," said Pop.

"What else could we have done? His car was over-

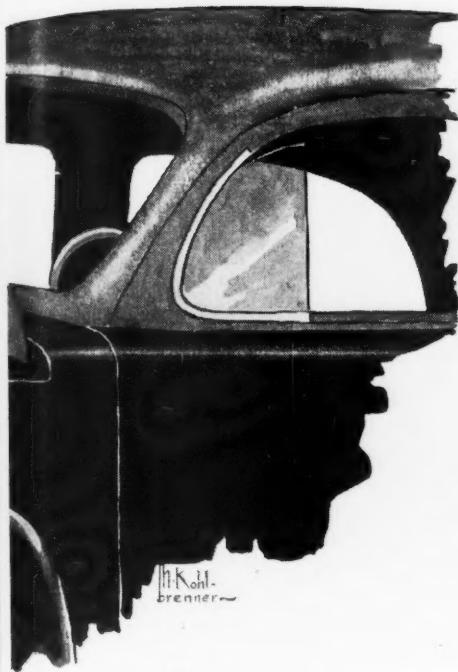
By J. EDWARD FORD

heating, so we reverse flushed the cooling system with a cleaning compound and tested the system for leaks and the water pump for end play and checked everything."

"We even replaced the hose and tested his thermostat to make sure it was openin' at the right temperature," added Pop.

"So there wasn't anything left to do."

"We couldn't think of nothin' at the time, anyhow. But you never know. It could be that—"



MOTOR AGE  
BASIC COURSE FOR  
MECHANICAL TRAINING

**Pop O'Neill cools off a customer  
under pressure when a radiator  
blows off steam in this 47th arti-  
cle of this Motor Age series**

My father named me after an uncle he thought was rich. But when Uncle Ferd died all he left me was his hound dog. The first time my mother called me the hound came runnin'. His name was Ferdinand, too. The next day he bit me and my father shot 'im. And I been stuck with that name for goin' on sixty years."

Tommy was torn between an impulse to laugh, and a desire to console anyone so unlucky as Pop seemed to be.

"You won't tell nobody?" Pop asked.

"Cross my heart."

Pop started to chuckle as he walked off and Tommy shook his head dubiously. The next time Pop appeared he was in a far different mood. He was accompanied as he came out into the shop by the big stranger whose car Tommy had so recently repaired. The stranger was waving his arms like a man who had accidentally discovered a hornet's nest.

"Youse guys is all alike," he was shouting. "Never give a sucker a break—specially if he's only passin' through! All I ast you to do is fix the radiator so it won't steam—and before I get ten miles down the road it's poppin' again."

Tommy could tell from the tightness of Pop's lips that he was having a hard time holding his temper. Pop stopped before the door button. "Are you through?" he asked.

"You're fixin' that car, see," the stranger prompted.

Pop pushed the button. "Drive it in."

The stranger smirked as if he had put over a big deal, and went out to drive his car into the shop.

"We got a rule here," said Pop, "that customers ain't allowed to stay on the floor."

"I'm stayin' right here so I can see what's goin' on."

(Continued on page 67)

## Engines Overheat

He was interrupted by a shout from Larry on the other side of the shop: "Hey Pop! Got a minute?"

Pop pulled his old-fashioned watch from his pocket and frowned. "Pop, Pop, Pop," he said. "You'd think nobody around here knew how to do anything by their selves."

Tommy grinned, "I've been around here for a long time now and I never heard you called anything but 'Pop.' Have you really got a first name?"

Screwing up his eyes, Pop looked at him a time and then said: "Can you keep a secret?"

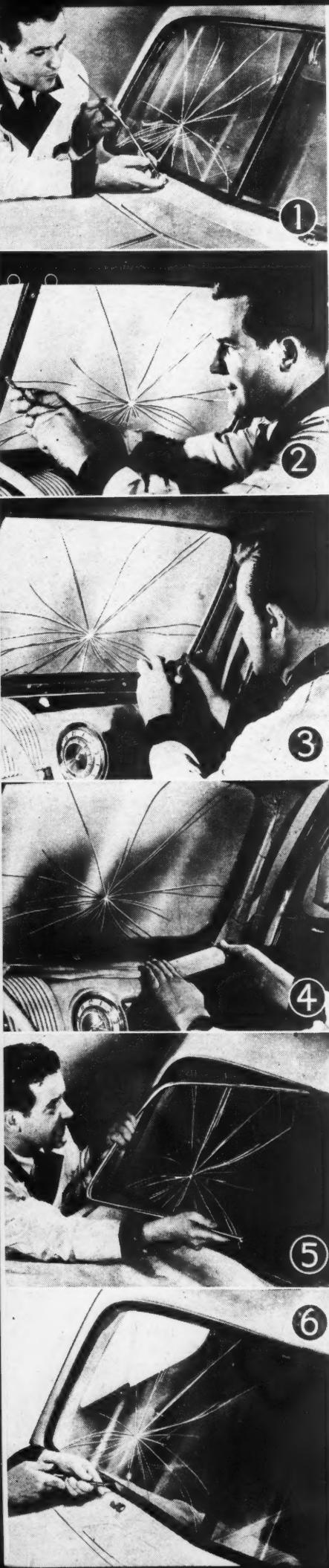
"Oh sure," said Tommy.

"Then I'll tell you. It's Ferdinand."

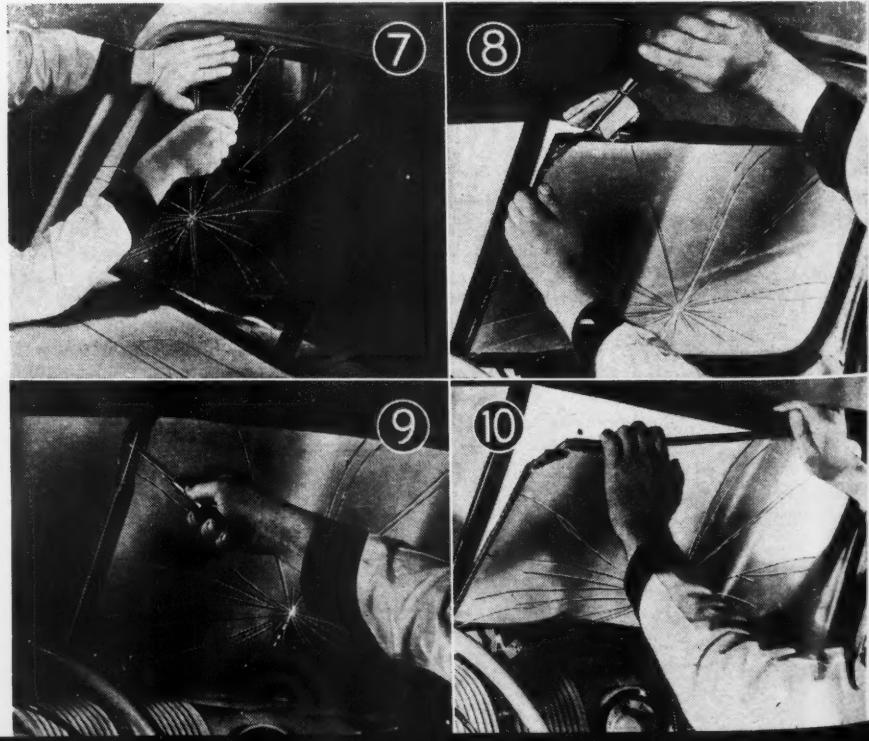
"No!"

"Sure it sounds funny, but there's a story goes with it."

# Replacing Ford 1946



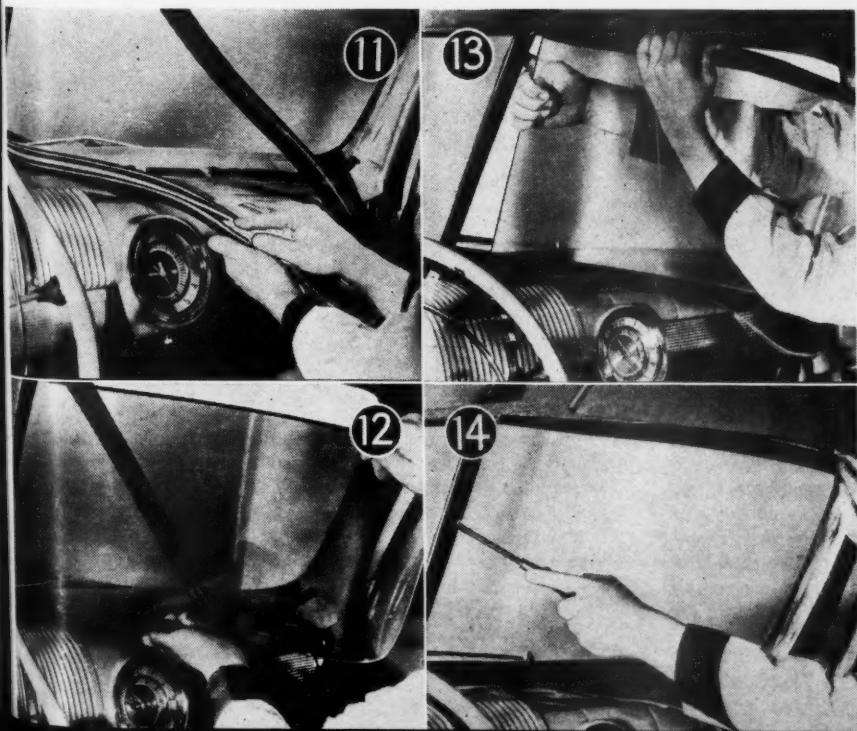
1. Lift the windshield wiper blade and arm away from the windshield and pull the assembly off the shaft.
2. Take out the three center strip screws and remove the mirror. If the car is equipped with radio, disconnect the antenna at the instrument panel and push the rod to the top of the windshield.
3. Remove the garnish moulding by taking out the seven screws which hold it in place.
4. Move the center strip to one side, and using masking tape cover the side strip, headlining and instrument panel for protection.
5. With a screwdriver under the lower center of the chrome strip, pry the strip loose from the rubber. Hold the strip with both hands, pull up and toward the center and the strip will come loose from the rubber.
6. Using a screwdriver loosen the rubber moulding around the outside of the windshield frame. Repeat this same operation on the rubber around the frame on the inside of the car.
7. With a screwdriver inserted between the rubber and the metal flange, pry the glass inward and at the same time apply pressure to the glass with the hand. Work the screwdriver and hand pressure all around the outside edge of the glass until it is free from the opening.
8. Using a screwdriver push the center rubber out starting from the top and working to the bottom.
9. Insert a screwdriver under the rubber and over the edge of the glass at the top center. Use a soft pad between the screwdriver and the headlining and pry the glass out far enough to take hold of the glass.
10. Pull the glass out with one hand, at the same time working the rubber loose from the glass with the other hand. Then remove the glass completely. Clean any sealing cement from the frame.

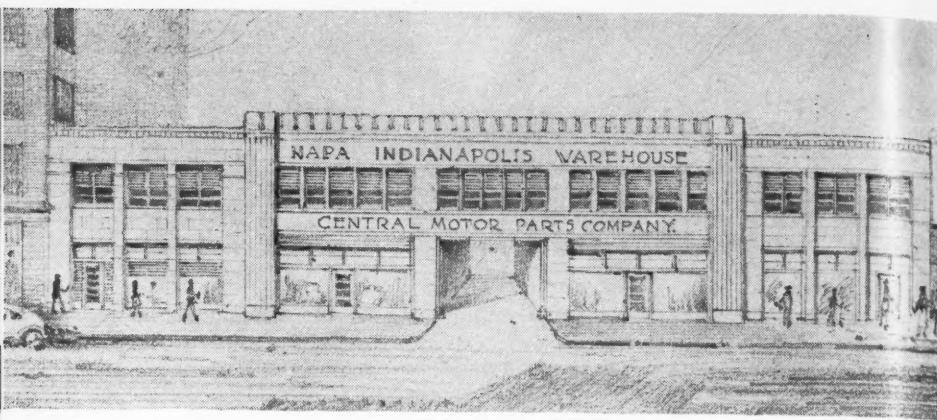


# Windshield Glass

11. Place the center strip back in position. Then lubricate the grooves in the rubber moulding with liquid soap.
12. Start the glass in the lower groove of the rubber moulding and guide the moulding along the bottom and edge of glass.
13. Brace the glass and moulding against shoulder and pull the glass away from the center. Using the other hand slip the moulding over the glass.
14. With a screwdriver open the slot of the center rubber and push the glass in place with the other hand.
15. Place one hand on the inside of the glass and lift slightly while forcing the glass and moulding in place toward the center.
16. Soap the outside of the metal windshield frame and work the rubber moulding over the edge of the frame, working from the top center around the frame.
17. Fill between the rubber moulding and the windshield frame with sealing compound and clean off any excess compound.
18. Apply liquid soap to the rubber moulding. Place the lower strip of the chrome bead against the moulding three inches from the center and then push forward in the slot, tapping the strip in place along the edge.
19. Take off all masking tape on the inside. Hold the outside center moulding strip and the screws through the inside center strip. Do not tighten the screws.
20. Enter the garnish moulding under the center strip and set it in place then tighten the moulding screws. Install the rear view mirror and tighten the screws on the center strip. Hook up the radio antenna, windshield wiper arm and blade and clean the glass.

Photos courtesy of Ford Motor Co.





Above, architect's drawing of the new Boozer-Test building to be constructed at Indianapolis, indicative of the growth of the expanding organization. Left, Ralph W. Boozer, of the enterprising jobbing team.

# Gigantic Jobber Covers Middle West Area

THE Boozer-Test Management Service, probably the largest independent distributor of automotive parts in the United States, with jobbing establishments in 18 different cities, is of particular interest at this time because it was started by two ex-servicemen shortly after the 1918 Armistice day and therefore serves as an example and inspiration to the thousands of young men who are now leaving the Armed Forces to start in business for themselves.

Shortly after the end of World War I two young ex-servicemen, one a soldier and the other a sailor, met in Indianapolis from time to time to discuss opportunities for going into business together. Out of this association grew the Boozer-Test Management Service of Indianapolis, and whose operations are important and active factors in parts distribution in a belt several hundred miles wide along both sides of the Mississippi from the Gulf to the Canadian border, spotted in distributing centers from Texas to Wisconsin and Michigan. In addition, the organization has been a major influence in the development of efficient replacement parts distribution throughout the United States.

The Boozer-Test story is practically the story of the growth and expansion of independent parts wholesaling, without which the service trade today would have a hard time getting along. In the territory they cover, their story is to a large extent also the story of NAPA—National Automotive Parts Association—a nation-wide organization of independently owned parts warehouses.

When Ralph W. Boozer left the Army he took a job

**One of the country's largest  
jobbers with 18 branches in  
10 states continues expansion  
to aid service trade needs**

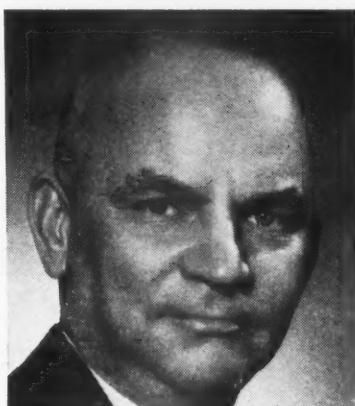
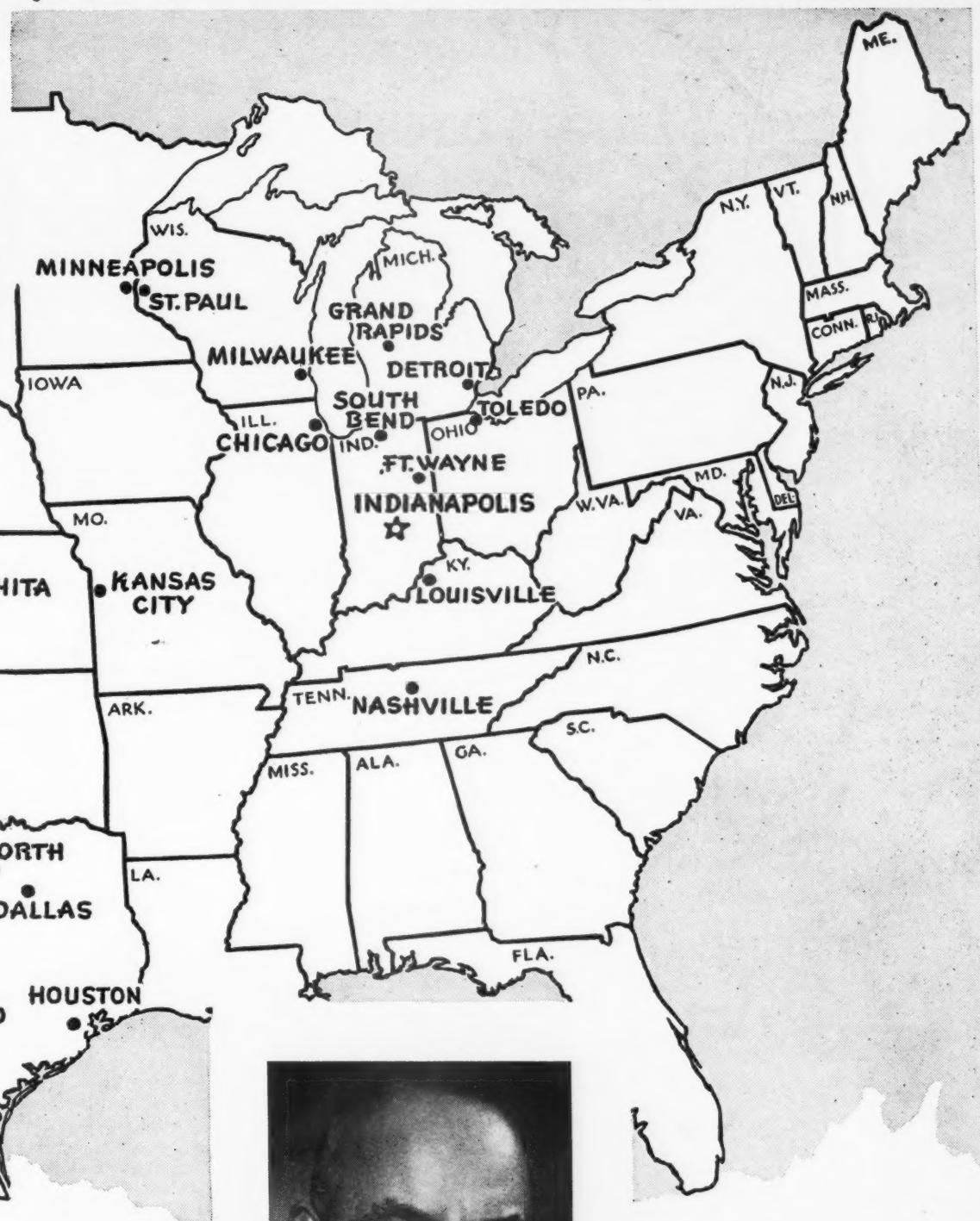
traveling for the Auburn Automobile Company. At the same time Don N. Test, ex-Navy, was engaged in managing family properties in Indianapolis. In 1920 they learned that Continental Motors was interested in selling its parts warehouse in Indianapolis and they decided that here was the opportunity they had been looking for.

At that time the Continental, like a number of other engine manufacturers, had found it necessary to maintain parts warehouses in various sections of the country in order to supply parts to owners of cars equipped with their engines. The warehouse stocked, almost exclusively, parts for Continental engines, because parts warehousing, for all makes, was unknown at the time.

Car dealers and distributors, of course, carried service parts for the vehicles they sold and occasionally they would be in a position to sell parts to the independent



ANS.



Don N. Test

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repair trade—usually at list prices and sometimes at a courtesy discount. Automotive jobbers carried some specialized parts lines such as piston rings, spark plugs and a few others, but parts jobbing, as it is known today, was practically non-existent. Many of the old-line automotive jobbing houses, covering large territories with lines that were particularly heavy with Model T specialties, failed to see the growing market for engine and chassis parts for a number of years. There was therefore an opportunity to do a far more effective parts distribution job than was being done, particularly to the independent repair trade, and it was this opportunity that Boozer and Test saw.

About the time they acquired the Indianapolis warehouse they were offered a distributor's franchise on Spicer and Brown-Lipe, and shortly after, on a line of timing chains covering most of the well-known vehicles of that period. They were able to sell them to the repair trade at a dis-

count. The idea was revolutionary and they did a volume business in timing chains. A little later came matched sets of ring and pinion gears, followed by other parts for which there was a volume demand. Of course, they tried lines that failed to make the grade, but year after year, as experience accumulated and the needs of the

(Continued on page 75)

# Saving Time Through Bigger Jobs

Complete jobs saved time and  
labor for this shop operator

By STEPHEN PORTER LATHROP

**C**AUGHT in the throes of reconversion, and faced with severe manpower shortages, auto repair shop operators are fighting against time, trying to meet schedules and wishing there were another twenty-four hours in the day.

A great many shops find mechanics spending a great deal of time on minor jobs—"nickel and dime" jobs which soon result in the same car being brought in again for some other little repair job with a corresponding squandering of more time. In these days when every car must last for an indefinite length of time, there is only one way to operate and that is try to get permission to do a complete job. The Van Wechel Motor Sales in Grinnell, Iowa does this successfully to the satisfaction of customers and themselves plus adding to their own profits.

Whenever a car is brought into Van Wechel's shop

for some little job, a record is made of the job that the owner wishes done. But before a single thing is done on that car, a complete checkup is made of it to see exactly what repairs are required. In making this checkup, however, the engine is not taken down unless the repair job for which the car was brought in requires it to be "torn down" in which case the checkup is made after the motor is down. In such instances a really complete and thorough checkup is made.

In either instance, no actual work is done on the car until C. Van Wechel, shop foreman and brother of Ray Van Wechel, owner of the shop, has talked by phone with the car owner, and explained exactly what the checkup has revealed. Mr. Van Wechel informs the car owner what the car needs and gives him a price for a complete job so that when the car leaves the shop, it will be in top condition for a car of its age.

Mr. Van Wechel frankly discusses with the car owner the folly of spending a few dollars every few weeks with a corresponding lay-up of the car, when a greater expenditure all at one time would really save the car owner time and money, too. In most instances the car owner can see the wisdom of this and gives his order for a complete job.

The advantages of this plan to the shop owner are many. In the first place, the car owner is more satisfied, and the longer he keeps away from the repair shop after getting his car back the happier he will be.

On the other hand the shop makes more money because it can plan and lay out its work to better advantage in saving time. It costs relatively more to put a mechanic on a little job, have him do it, take him off, put him on another and so on, than it does to put a mechanic on a bigger job that will take him a day, two days, possibly a week to complete. There is much less lost time and lost motion.

In the Van Wechel shop there are six men besides, Mr. Van Wechel, the foreman. Since this firm has been pushing the "complete job" instead of just taking any and all offered to it, it has been able to take the two best mechanics and keep them on complete repair jobs with a correspondingly better profit from these two mechanics. Two other mechanics are kept for the smaller jobs where the car owners do not want a complete job. The other two men in the shop, a grease man and a wash rack man pursue their respective jobs. How does your shop operate?

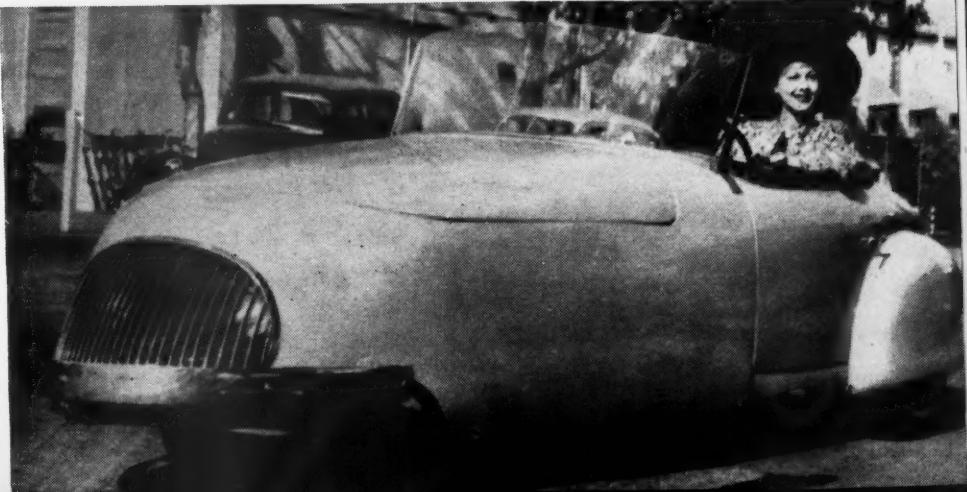


# MOTOR AGE PICTURE GALLERY



Although lovely Mary Martin may be shedding her coat as she finishes a song, winter is moving slowly into the scene. And winter means winterizing cars for the rough weather ahead. Heaters will again be the fashion in all cars.

This should help out the tire situation. Maria Montez, screen star, is shown taking a ride in a three-wheel car which West Coast manufacturers claim will be off assembly lines within 3 months. It is stated that with the aircraft engine unit, the car will do 100 miles per hour.





Lt. Rex Mays, well known auto race driver, prepares to do a little tune up work on his racer in preparation for the 500 mile auto race next Memorial Day at Indianapolis. After a lull of four years, racers will again be burning up the bricks.



With plants all over the country swinging back into peacetime production, shotguns will again be making their appearances in sporting goods stores everywhere. Thomas I. S. Boak (left) and Herbert Orre compare model 12 shotgun barrels with a finished product at a New Haven, Conn., factory.

Perched precariously atop an 1870 bicycle known as "The Bone Crusher," Eileen McDonald braves all dangers to take a ride on the vehicle. The bicycle is a part of the antique collection which was exhibited at an Arts and Antiques show held recently in New York. Here's hoping she stays on!

Maintenance and inspection on trucks are just as important in the Army as they are in civilian life. WACs and soldiers, shown here, join in inspecting a truck engine under the watchful eye of T/Sgt. O'Neil Brandt. The old Army was never like this, eh, Sarge?



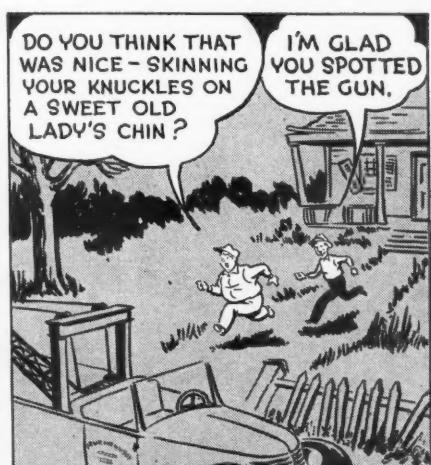
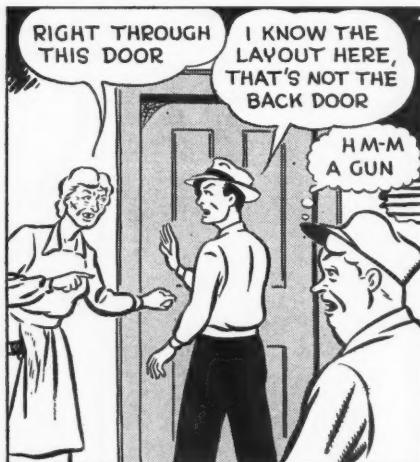
"Driver to Base, there's a woman driver blocking the road," might be what this Arlington, Va., bus driver will be saying. Two-way radios are being installed in buses of the Arnold Bus Lines of that city for better and more efficient service. Tested successfully, they will be important in reporting traffic jams or accidents.

Important to the production of new tires is this cargo of 3200 drums of latex and 5000 bales of crude rubber, part of which is shown here. This valuable cargo was unloaded recently at Boston, Mass.



# FRANK THE FIXER

STORY BY J. E. FORD  
DRAWN BY A. L. CASSEL





Interior view of the Hickman Oldsmobile, Inc., service department, Indianapolis, Ind. Below, street view of the Hickman building.

By A. E. HOLDEN

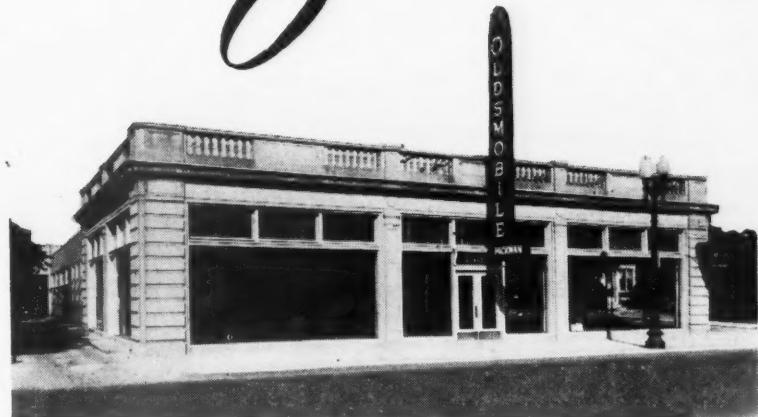
## Steady Profits Through Super Service

**A**N enviable record of service volume built up during the war period is clearly evident on the books of the Hickman Oldsmobile, Inc., Indianapolis, Indiana, which operates one of the largest automobile service shops in the Midwest. According to General Manager, Orville W. Cunningham, war-time labor sales alone ran \$6,000 to \$8,500 per month, these figures being minimum and maximum, do not include parts or other vital replacement item sales, such as tires, batteries, and accessories. No major car sales have been possible since 1941, when 841 new and 1569 used cars were sold.

The management methods which built up the company's profitable service business, and which will be strengthened even more post-war to boost new and used car sales, are given below, and are essentially "super-service" methods. Mr. Cunningham emphasizes the importance of efficient service to insure steady car sales in normal times, and to make each department a profitable one in itself, in addition to helping without stint the sales of new and used cars.

(1) Complete automobile service. As Mr. Cunningham pointed out, "We have everything in automotive service, including body work and painting. Frame straightening is the only exception and this is "farmed out."

(2) Floor arrangement designed to speed up service work, and to maintain a quality of workmanship. For example, as shown in accompanying illustration, lubrica-

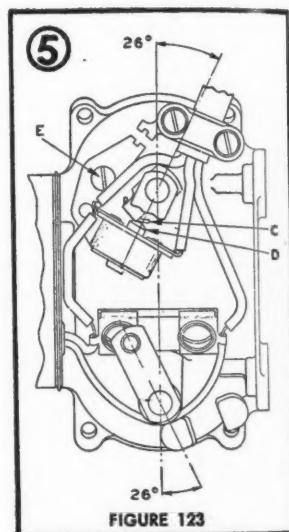
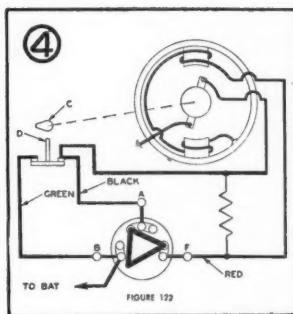
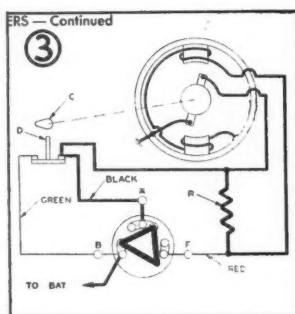
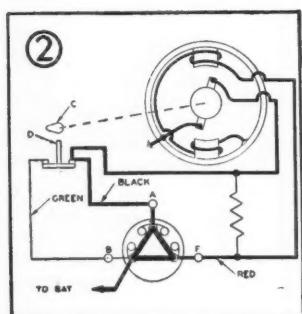
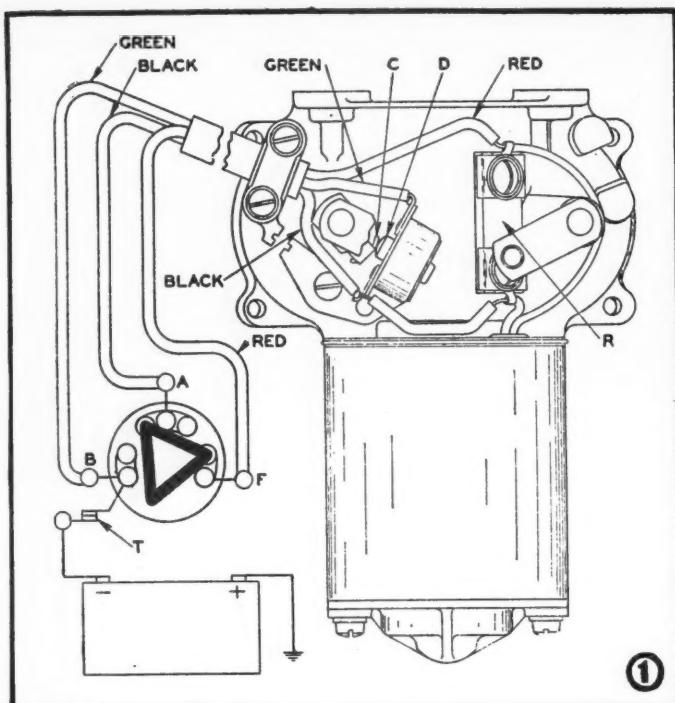


**Stressing service this mid-west dealer added to profits during the busy wartime period and is continuing to increase business volume**

tion is rated in first position, as it is the foundation of automotive maintenance, and, where most major service sales begin; from this department, gas sales follow from the convenient pumps in center, also accessible to motorists having other jobs done.

(2-A) Continuing floor arrangement, the service man-  
(Continued on page 76)

# Servicing Electric Windshield Wipers



\*Illustrations courtesy Electric Auto-Lite Co.

**Operation and service of Auto-Lite series EWD electric windshield wipers used on Chrysler, Dodge and Plymouth detailed to assist in these jobs.**

by Bob Turner

**T**HE motor used on this series wiper is a two-pole shunt wound type. It is designed for two-speed operation and has two crank arms to provide direct drive to each of the drive pivots. A thermostatic circuit breaker is used in the line from the battery to the switch to protect the wiper motor. This circuit is shown in Fig. 1. A worm gear on the end of the armature shaft drives two gears which rotate the two crank arms. These crank arms are connected to the linkage and impart a reciprocating motion to the pivot crank arms. The pivot crank arms drive the pivot shafts and cause the wiper arms and blades to move back and forth across the windshield.

When the control switch is placed in the low speed position, the electrical circuit is as shown in Fig. 2.

Placing the control switch in the high speed position changes the circuit to that indicated by the heavy lines shown in Fig. 3.

With the control switch in the "off" position the motor will continue to operate until the cam "C," Fig. 4, opens the switch "D" which opens the circuit from the battery to the motor. The purpose of the motor continuing to operate is to return the windshield wiper arms to their parked position.

To test the control switch, disconnect all four wires at the switch. Then connect a test light between the ammeter and the terminal "A" on the control switch. Connect another grounded wire to the terminal "F." The circuit should then be complete in the "off" or parked position.

Place the control switch in the low-speed position. Connect a test light to terminal "B" and a grounded wire to terminal "A" and then to terminal "F." The circuit should be complete in both cases.

With the control switch in the high speed position, connect a test light to terminal "B" and a grounded wire to terminal "A."

The thermostatic circuit breaker should open and close under a 12-ampere load.

The primary circuit of the motor is tested with a test light at the ignition switch, gas gage, windshield wiper switch and the wiper motor ground.

Disconnect the wires, leading from the switch to the motor, at the switch. Connect a test light to the green wire and a grounded wire to the black wire. Press the parking switch button on the motor with a pencil. The circuit should be complete when the button is released.

(Continued on page 72)

# Why was Studebaker chosen for such critical war tasks?

**WHAT WERE THE QUALIFICATIONS  
FOR BUILDING FLYING FORTRESS ENGINES,  
MILITARY TRUCKS AND WEASELS?**

By Paul G. Hoffman  
*President, The Studebaker Corporation*

HERE is plenty of glory for all in the miracle of American war production. Thousands of manufacturers, large and small, did their job well—rendered priceless service. Some manufacturers turned out munitions of war in greater volume than Studebaker. But it is doubtful if any other manufacturer carried out such difficult assignments with such complete success as did 93-year-old Studebaker.

For the war, 12,597 Boeing Flying Fortresses were built. All the world knows how invaluable these great bombers were in reducing Hitler's Germany. Studebaker manufactured 63,789 Wright Cyclone engines to power the Fortresses.

\* \* \*

Studebaker also built 197,661 heavy-duty military trucks—trucks that carried the Red Army from Stalingrad to Berlin—trucks that took punishment by weather and terrain from the Persian Gulf to the Arctic Ocean.

\* \* \*

To the invasion beaches, to the swamps and jungles of the Asiatic theater, Studebaker contributed the Weasel personnel and cargo carrier. It went where no other vehicle could venture.

\* \* \*

Why was Studebaker chosen to build these engines, these trucks, these Weasels—for air, land and amphibious transportation?

Here are the reasons why the Army came to Studebaker:

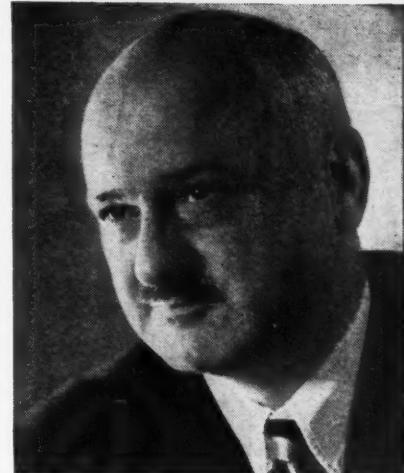
1. A production organization of keen, alert brains headed by H. S. Vance, Studebaker Chairman, and Ralph Vail, Vice President, includ-

ing, in South Bend, P. O. Peterson, Bert Fowler, George Westphal, George Bunner, W. J. Learmonth; and in Los Angeles, C. K. Whittaker, Stanley Whitworth—and other men capable of doing a quality job quickly.

2. An engineering organization distinguished not only by brilliance but by genius—headed by Roy E. Cole, Vice President—staffed by men such as S. W. Sparrow, H. E. Churchill, E. M. Douglas, W. W. Smith and S. A. Jeffries.

3. The finest group of craftsmen in the automotive industry, probably in any industry—fathers, sons and grandsons, saturated with a great tradition of quality production—workmen with unequalled "know-how" in automotive manufacture, craftsmen imbued with the finest team spirit.

These were the assets the Army was looking for—and which enabled



**Harold S. Vance**, Chairman of the Board of The Studebaker Corporation since 1935; entered Studebaker's employ as a mechanic 35 years ago; has served the organization in many key positions.

Studebaker to become one of the lowest cost manufacturers of airplane engines for the Army Air Forces.

These assets—management brains, engineering genius, craftsmanship—helped Studebaker to deliver *on schedule* every engine, every truck, every Weasel ordered.

\* \* \*

My own responsibility at Studebaker has been administration rather than production. The credit for the accomplishments cited goes not to me but to Studebaker's matchless production and engineering organization. Therefore, I feel free to publicize this tribute to men who deserve it.

In behalf of K. B. Elliott, Vice President in Charge of Sales, I conclude with this moral for motorists:

*"The same men who built Studebaker military trucks, Weasels and engines for Flying Fortresses are now building the best passenger cars and trucks money can buy."*



A typical Studebaker father-and-son team. Alonzo T. Messersmith served 12 months overseas in World War I, has been with Studebaker 21 years, is a tool maker in the Body Division Tool Room. His son, William H. Messersmith, joined Studebaker in 1941, was overseas 8 months, returned recently after being wounded in the Battle of the Bulge.



By Reese Wade

## Lube Jobs Boost Service Volume

**F**REE lubrication can prove an important leader in selling repair work to car owners. Using free lubrication as a premium, the Greenlease-O'Neill establishment in Kansas City, Mo., has chalked up a top total repair volume of \$23,140.00 for one month during this year.

How can "Nor" O'Neill and his crew maintain this growing volume of business starting from lube jobs? What were the methods used?

It started before the war when free lubrication service was offered to the new car owners who purchased their cars at Greenlease-O'Neill. A book of coupons authorized the owner to receive one free lubrication each one thousand miles, if Greenlease-O'Neill sold the oil change. A car owner driving an average distance would get the oil changed 10 times per year.

In other words, Greenlease-O'Neill would have ten opportunities each year of selling that car owner additional needed service, Lloyd Ketcham, service supervisor, said.

"That was an Oldsmobile plan," Ketcham explained. "We took it up immediately and have stayed with it. Most dealers dropped the idea when the war brought a rush of business. They thought it foolish to give away service. We figured, however, that a practice which was

**Learn how this dealer built a profitable volume by using lubrication as a premium for car owners**

good business in peacetime would be good business at any time."

In 1941, Greenlease-O'Neill had about fifty per cent of their total lube jobs "on the book." Now, in 1945, about twenty-five per cent are still "on the book"—and no books have been issued since new car sales ended.

Recently the Greenlease Cadillac agency was brought into the same building with Greenlease-O'Neill's Oldsmobile business, and of course Cadillac brought its share of business along. So the "book" percentage is probably lower on each month's total records than it would have been if Cadillac—which never used the book plan—had not blended its business with the original Oldsmobile customer list.

Right now, Greenlease-O'Neill averages about seven hundred lubrication jobs per month. "About ten per cent

(Continued on page 80)

# McQUAY-NORRIS PISTON RINGS

"GIVE OLD MOTORS NEW MUSCLES"



*New! Complete!*

We recommend the use of many rings—the right ring for each individual groove, contained in the right set for each type of application. That's why we produce not one—but four piston ring lines.

ENGINEERED SET  
PISTON RINGS  
FOR  
R E - R I N G I N G

REBORE-REBUILD EXPANDER IRON EXPANDER  
PISTON RINGS WITH RINGS  
PISTON RINGS WITH  
STEEL EXPANDERS  
FOR DEALERS' SERVICE DEPARTMENTS

FACTORY TYPE SET  
PISTON RINGS  
FOR LARGE BORE MOTORS,  
SLOW SPEED MOTORS  
AND SLIP-IN JOBS

FACTORY TYPE  
SET

PISTON RINGS

FOR  
LARGE BORE MOTORS,  
SLOW SPEED MOTORS  
AND SLIP-IN JOBS

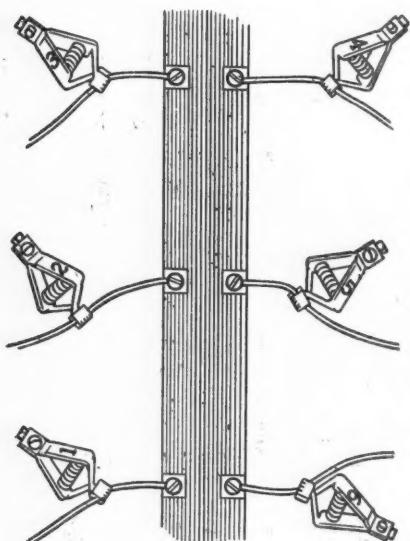
Here's your chance to pick up a little extra money. We'll pay five bucks (\$5.00) for every Shop Kink accepted and printed. So send 'em in to us—some short cut you use in doing a job easier and faster than the other fellow—some special tool you made when you couldn't buy one to do the job—and we'll do the rest. Incidentally we won't accept any that have previously appeared in any other automotive publication. Send 'em in!

# SHOP

## "Tagging" Switch Wires

When installing new switches, I found I wasted lots of time "tagging" the wires, until I hit on this idea.

Take about a dozen ordinary spring clips and number stamp them 1 to



12. When removing wires from old switch, simply take off the wire in the 1 o'clock position and attach the No. 1 clip. Work clockwise around the switch, clipping each wire with the next numbered clip.—James Schultz, 3045 A St., Philadelphia, Pa.

## Removing Nash Oil Pan

I have found an easy method to remove the oil pan on 4140 Nashes. Instead of disconnecting front axle, I remove the front engine shackles and raise front of engine about 3 inches. Then lower the oil pan on the axle, reach in and remove the oil pump and drop into pan. Remove the oil pan and pump together. Oil pump must be removed as there isn't enough clearance for pan to slide out.—Bob Montgomery, 677 Ferndale Ave., Abington, Pa.

## Gasket Replacement

We have found when replacing the side plate gasket on Buick and Chevrolet engines that it is difficult to hold the gasket in place. To overcome this difficulty we first clean the side plate thoroughly, put the gasket in place and hold it with short strip of masking tape. The masking tape is left in place and will not cause an oil leak.—J. T. Johnson, Box 251, Alpine, Texas.

## Cleaning Carburetor

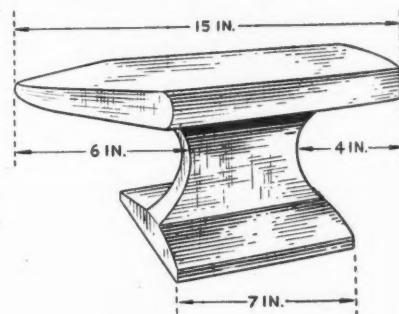
Frequently time does not permit the removal and disassembly of the carburetor for proper cleaning.

In cases of this kind switch numbers 3 and 4 spark plug wires and race the motor. This will clean any obstruction from the low speed jet and the carburetor may then be re-adjusted for idling.

Dirt will also collect in the accelerating pump jet which is accessible without removing the carburetor from the car.—William Woodhall, 1414 Penna. Ave., Natrona Heights, Pa.

## Small Shop Anvil

A very serviceable small anvil for use in the shop can be made from a 15 in. length of 90 lb. rail. All the cutting is done with a cutting torch. The smoothness of the job depends



on the operator, the steadier his hand the neater the job will be.

The dimensions shown in the drawing give the recommended proportions and are suggested for most light work.

This idea appeared in the October issue of *Oxy-Acetylene Tips*.

## Replacing Starters

When putting starters back on Chrysler built cars we cut a slot in the top cap screw for screwdriver. This saves lots of time in putting starter back on and also helps a lot if we have to take them off later on as there is very little room for a wrench, unless you had a special one. Ehleringer Bros., Iona, Minn.

# KINKS \$5

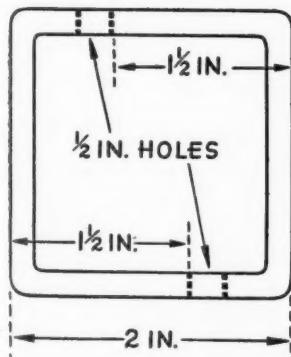
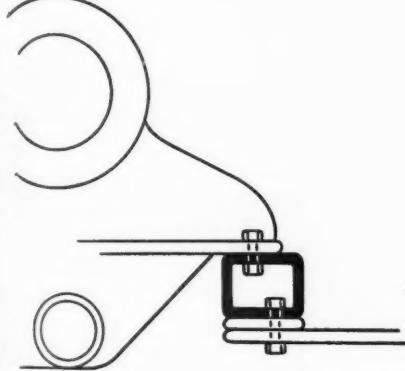


## Installing Ford Engines

When installing a new 1942 or '43 Ford motor in a Ford truck prior to 1935, it was necessary to use spacers under the front motor supports.

Being unable to buy these spacers,

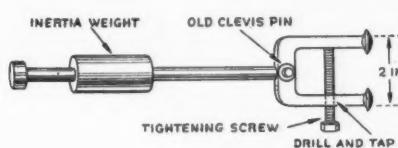
the top and one in the bottom  $1\frac{1}{4}$  in. from the sides as shown in the illustration. Using one of these spacers under each motor leg makes a perfect job.—*Warren F. Dieher, Audubon, Iowa.*



## Pulling Grease Retainers

When you pull a front wheel grease retainer with a bar or screw driver, usually it's so bent up that lots of time is wasted straightening it out to replace it.

Here is an easily made puller, which takes it out in a jiffy without any distortion or bending. It also works fine on bearing races. Just follow the sketch.



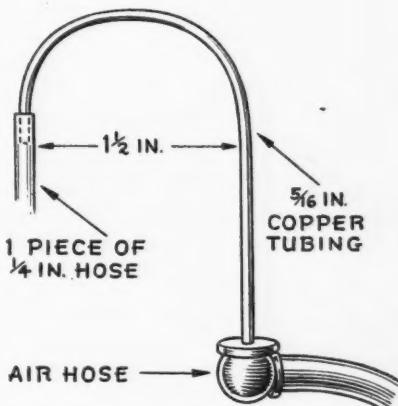
Two pieces of cold rolled steel are bent about  $1\frac{1}{2}$  inches and drilled for a clevice pin. The ends have a half moon shaped piece of steel welded to them. Simply loosen the screw and insert the ends into the grease felt back of the retainer, tighten the screw which will force the two half moons into the felt. Sock the sliding weight against the head of the bar and zippo, it's out.—*Louis Rivello, 1845 E. Cornwall St., Philadelphia, Pa.*

## Tool Cleans Drain

We have had a number of Plymouth cars come in the shop leaking oil

from the crankcase ventilator on the right side of the motor.

We have made a tool to clean out the drain from the rear camshaft bearing to the oil pan. A piece of



copper tubing, bent as shown and a piece of  $\frac{1}{4}$  in. hose on the short end of the tube to reach down in the drain hole, are all that is required. Air pressure applied on the other end of the copper tube will clean the drain very effectively.—*William L. Nelson, Nelson's Garage, 423 West High St., Springfield, Ohio.*

## Gas Line Repair

We frequently have Fords come into the shop with gas leaking from the fuel pump side of the line from the pump to the carburetor. We make a quick repair by cutting a lead washer from a battery post shim, slip it over the line and tighten the connection.—*W. M. Cavanaugh, c/o Camp Ayers, Chino, Calif.*

we used a piece of flat strip steel  $\frac{1}{8}$  in. thick and 2 in. wide, bent it to form a square 2 in. by 2 in. and welded it. Then drill a  $\frac{1}{2}$  in. hole in



# CLEARING HOUSE

## FOR SERVICEMEN'S QUERIES

Bill Toboldt, Editor, Motor Age

### Engine Overheats

I haven't written you for a long time on a problem, but I have one now. I have a '36 Pontiac Eight which you can't go over 3 to 5 miles before it gets so hot that it boils so you have to stop and let it cool off. This car has not had a ring or valve job that we have been able to know of. They want me to do this. The radiator has been back-flushed twice in about the last 18 months. The last time this was done, there was a new pipe installed in the block. I can't see what causes this unless the pump shaft is sheared off. But if I grind the valves and put in new rings, I want to be sure the heat problem is solved or it won't be so good for the valve job or the new ring. I have not checked the compression, but I can see the exhaust valves are running very hot. The spark plugs burn very bad in about 10 months.

I also have a '37 Hudson-Terraplane to re-ring and grind valves. I have never worked on a Hudson. I have heard that you can't use a regular steel edge ring on this job, that it takes a special ring. If so, what type of ring would you suggest? The cylinders should not have much taper. The car is running now but the valves are beginning to leak. They wanted the valves ground and leave the old rings in. I didn't think much about this, because the rings have not been changed. I never grind valves unless I can change rings on this old job.—Harry H. Sommers, Lincoln, Ill.

In regard to the trouble you are having with the 1936 Pontiac which overheats, I see you have not yet checked the water pump. Before proceeding with any work on the car I would certainly be sure to examine the pump thoroughly; however, if it is not, I am inclined to believe that both the cylinder block and radiator

core are clogged up with rust and sediment and will require a thorough flushing to remove the sediment from both the core and block.

Invariably when you clean only the radiator core the sediment keeps pumping over from the cylinder block and only clogs up the core again in a short time.

Now on your other problem of the 1937 Hudson. I would suggest that you let your jobber make the recommendations on a set of rings for this car as undoubtedly the company whose make of rings he handles have a set designed to take care of this model.

### Steering Gear Trouble

We have a job to adjust the steering worm on a 1931 Willys Knight, Motor No. 1082, Factory No. 1031, Model 66D.

We are not able to take the play out of the steering apparatus without interfering with getting the wheels locked, especially the right one, when turning to the right.

If we remedy the above fault, then the steering wheel must make nearly one-half turn before it becomes effective.

This car was run into a telephone post at one time, and knocked out the left front wheel, the car holds the road well, does not wander nor shimmy.

Will be pleased if you could remedy the above mentioned faults.—H. F. Krahmer, Crescent Garage, Gaston, Ore.

It is my feeling that the steering cross shaft bushings are probably badly worn. The only cure for your trouble would be to completely overhaul the steering gear assembly, replacing any parts which may be worn or you feel it is necessary to replace.

### Compression Pressure

I overhauled a 1937 Lincoln-Zephyr, put in new rings, ground and seated the valves, put in new rod and main inserts, new manifold, carburetor and fuel pump, one set of reconditioned heads. This happened in March—now at the least, we don't seem to get forty pounds of pressure. What can the trouble be?—J. D. Boatright, 1535 E. Fifty-ninth St., Los Angeles 11, Calif.

YOU certainly are having your troubles with the 1937 Lincoln-Zephyr in which you installed new rings.

The only reason that I can see that the compression pressure should drop below 40 lbs. per cylinder is that at some time after the car was overhauled it has been operated over a period of time with the engine badly overheated. This, of course, would cause the rings to stick in the grooves of the pistons and consequently there would be no sealing effect from the rings to the cylinder walls, giving very excessive blow-by, with the possible loss in compression pressure. This condition, of course, could only be determined by dismantling the engine and inspecting all of the piston and ring assemblies.

### Pierce-Arrow Data

Would you please send us data on the brake set up for a 1935 Pierce Arrow as our book containing this information has been mislaid.—S. P. Lowe, Ajax Brake Service Co., 302-304 West Broad St., Columbus, Ohio.

THE following method is used in the brake adjustment on the 1935 Pierce-Arrow which you requested.

Front Brakes — Jack up front wheels until they can be revolved

(Continued on page 46)

# New Proof<sup>®</sup>

of an old reputation for dependability

## FURTHER EVIDENCE OF CHAMPION'S TOP PROFIT OPPORTUNITIES

The airlines of America find one quality paramount in every item used in their planes—dependability. It is not surprising, therefore, that more and more airlines specify Champion Spark Plugs, for Champions and dependability have been synonymous for many years past.

The motoring public has been quick to recognize this new prestige that has been added to Champion's traditional dependability because of the great volume of national magazine, farm paper and vocational trade paper advertising that has been put behind this fact.

Today more than ever Champion Spark Plugs are first choice of motorists. For the public buys spark plugs primarily on reputation for better performance and greater dependability. The alert dealer recognizes this fact as the key to maximum volume, profits and turnover. That's why Champions are logical first choice for dealers.

DEPENDABLE  
**CHAMPION**  
**SPARK PLUGS**

CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO



They Finished  
Their Job —  
Let's Finish Ours



## Clearing House

(Continued from page 44)

freely, with brakes off. Tighten the large hexagon adjusting nut located at the top of the backing plate, above the axle until the wheels cannot be revolved. Loosen the hexagon adjusting nut 10 notches. Each notch is indicated by an audible click. This should give the shoes sufficient clearance to allow the wheels to be revolved without coming in contact with the brake shoes.

Providing the wheels cannot be revolved freely, use a screw driver to turn the adjusting screw on the backing plate at the rear of the axle, right or left, whichever may be necessary and until the wheels can be revolved freely. This adjustment is for centering the brake shoes.

The adjustment of the front brakes is now completed and the jack can be removed.

Rear Brakes—Jack up rear wheels. The rear wheel brakes are identically the same as the front, except that the hexagon adjusting nut is located in the rear of the axle, instead of above the axle. The adjustment of the shoes is the same as the front brakes. The centering of the shoes is the same as on the front, the adjusting screw, however, is located below the axle at the bottom of the backing plate.

## Oil Pressure Drops

I have a little problem here for you to settle for me if you can. I have a '34 Ford V-8 with a '37 motor, 94 H.P. I had the motor rebuilt about two months ago. The motor was rebored to .030 oversize and Ford pistons and rings were put in it. The valves were given space of .015, .002 more than Ford specifications. The valves were in good condition, also the valve guides were in good condition. The crankshaft was turned down and truck and bus inserts and bearings were put in it. It never has had very good oil pressure. It has had from 6 to 10 lbs. oil pressure. The other day it dropped back to about 1 lb. oil pressure. I have driven this car about 300 miles since it dropped back to about 1 lb. pressure. Since it has had pressure from 1 lb. to 12 lbs., I have disconnected the oil gage and the oil comes in spurts and not very strong.

The right bank of this motor is very quiet while the left bank is very noisy. This motor seems to have a knock in it, becoming louder as the speed is increased. It only makes this noise when the motor is rolling freely. It sounds like there is a loose insert or rod.

We thought that maybe the piston pin was loose but when the head was removed the cylinder showed no wear.

The noise has been traced to No. 4 cylinder on the left bank. It seems to lose some of its compression. I put an oil filter on it about six weeks ago. This motor developed the noise I have already spoken of shortly before I put the oil filter on.

At first I thought that the oil might be too light as I was using 10 W in it but it did not let up but became worse when heavier oil was put in (30 W).

I have also had trouble with it steering and shimmying. A new front spring has been put in, new spindle bolts and the drag length reversed as it was on backwards.

We also have a 1935 Master Chevrolet. The motor in it was rebuilt about six months ago. A new crankshaft and bearings were put in. It was rebored to .060 oversize.

Before it was rebuilt it had about 15 or 20 lbs. of oil pressure. It now has about 2 to 5 lbs. of pressure when warmed up. When first started it has about 10 or 15 lbs. of oil pressure. Could it be the oil pump going bad in it? Both of these cars are being used every day — the Ford being driven to school most of the time and the Chevrolet when the Ford isn't in condition to go.—Donald E. Harder, Oak Hill, Kansas.

I THINK the best thing for you to do on your 1934 Ford is to make an oil leak test on the bearings to see which are leaking oil and in that way you can determine which bearings are loose and which ones are causing your knock. I think that you are quite probably correct in thinking that the inserts are loose in the rods.

In regard to the shimmy you are experiencing with the same car I would suggest you make sure the wheels are balanced and that the shock absorbers are in good working condition. Shock absorbers and wheel unbalance are more frequently the cause of this trouble than worn king pins or incorrect alignment.

On your Chevrolet I think the most probable cause of your trouble is a defective oil pump and I would suggest you replace it or rebuild it. I think you should also check the oil pump on the Ford and also make sure all of your oil lines are clear.

## Engine Runs Poorly

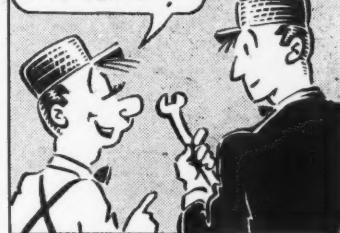
A customer of mine has a Cadillac V-8, 1937 Model, which is giving a lot of trouble, so I wonder if you can suggest something before I spend some more time on this car.

First will tell you how it runs. On the road it performs perfectly, and the only time it acts up is below 10 miles per hour—then it jerks on idling throttle. Otherwise on open throttle it is fine—good power, etc.

(Continued on page 52)

## BUTCH...

BOSS! REMEMBER LAST SPRING WHEN I CHANGED THE GREASE IN DOC'S TRANSMISSION? THAT WAS THE DAY I LOST MY RING!



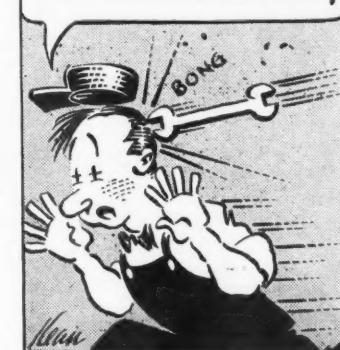
... WELL, TODAY DOC WANTED ME TO PUT WINTER GREASE IN HIS TRANSMISSION...



... SO I DRAINED OUT ALL THE SUMMER GREASE AND WHAT DO YOU THINK I FOUND?



NO!—JUST A LOT OF OLD BLACK GREASE!



*The  
TRUCUT  
will operate  
at a profit...  
in any shop*



**T**takes only 5 minutes to machine and undercut commutators, make them like new, with the TRUCUT Armature Lathe and Undercutter.

Commutators are machined concentrically with the bearing surfaces of the shaft, providing a perfect surface for the brushes to ride on. Only one set-up of the armature is required.

This work is profitable. TRUCUT-equipped shops are advising check-ups, at regular intervals, of their customers' generators and starters. This advice is appreciated because it forestalls possible serious trouble later.

Let us tell you about TRUCUT, and the experiences of some of the many shops that are TRUCUT-equipped.



See your jobber or write

**FRANK N. WOOD CO.**

**TRUCUT**  
*Armature Lathe & Undercutter*

344 W. MAIN STREET • WAUKESHA, WIS., U. S. A.  
CANADIAN REPRESENTATIVE: W. H. COOPER & CO.  
1103 YONGE ST., TORONTO 2, ONTARIO, CANADA

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Also Mfrs. of TRUCUT Mica Undercutter,  
Tailstock Rest, General Purpose Press.



## Labor and Shortages

(Continued from page 21)

before the end of the month. Production schedules call for 19,000 cars in November and 40,000 in December. Truck schedules envision 23,000 units in October, 41,000 in November, and 44,000 in December. If schedules are met, the division will turn out just short of 240,000 cars and trucks this year. The 11 Chevrolet assembly plants are toolled for a postwar peak of 450 cars per hour, or more than 7000 per day when working two eight-

hour shifts. Although the division was behind its October schedules because of labor troubles in suppliers' plants, it expects to be up to schedule before the end of the year.

At Plymouth Division of Chrysler Corp. production had not yet started, but several cars in various stages of assembly were on the newly completed assembly lines. Reconversion is well along, with production expected to get underway shortly after the first of November on a limited scale. The plant is being completely revamped, and not one machine will stand in the same place it was before the war.

The two assembly lines will be one-half mile long each, and the plant will have capacity of 3 cars a minute when in full production. One line will be run two shifts, and the other one shift, according to present plans, making a total daily output of more than 2100 cars per day. The Evansville, Ind., and Los Angeles plants will add another 1000 cars per day, so that at the peak the division can turn out about 3000 automobiles daily. The engine plant now is in operation at about 2000 per day.

No report was forthcoming on other Chrysler divisions, other than that they are in about the same relative position as Plymouth. K. T. Keller, president, stated that the corporation will spend \$57 million on getting facilities rearranged for car production and another \$18 million on additions to existing plants. The job will require installation of 70 miles of conveyors, 3100 linear feet of spray booths, and 8500 feet of drying ovens. In addition more than 18,000 machines used on war work must be reconditioned. The company has purchased 974 machine tools from the government and must buy 1256 new machines. Keller stated that his company would be in full production by six months after V-J day.

Ford Motor Co. reported that it was building more than 400 cars a day and was attempting to get into full production as soon as possible. Henry Ford, II, president, said Ford is expecting to build 75,000 cars and 50,000 trucks yet this year. Branch plants at Edgewater, N. J., Buffalo, Louisville, Dallas, Chicago and Somerville, are in operation and others are rapidly being whipped into shape to go into production at an early date.

Packard also now is in limited production, but is experiencing trouble with shortages of certain components needed to complete the cars. The trouble prevails generally in the industry. When newsmen visited the plant, several cars had been partially assembled, but were waiting for nine items from strikebound suppliers. The principal missing items were body

(Continued on page 50)



## Johnson QUALITY Bearings

Now that the world is at peace you will soon be able to get all the Johnson Bronze Bearings that you need. They will be made to the same high standard of precision and perfection as always. This will enable you to give your customers new car performance regardless of the mileage now shown. Write for our complete catalogue NOW. Then check up on your immediate needs and place your order early.

**JOHNSON**  
SLEEVE BEARING  
455 S. MILL STREET

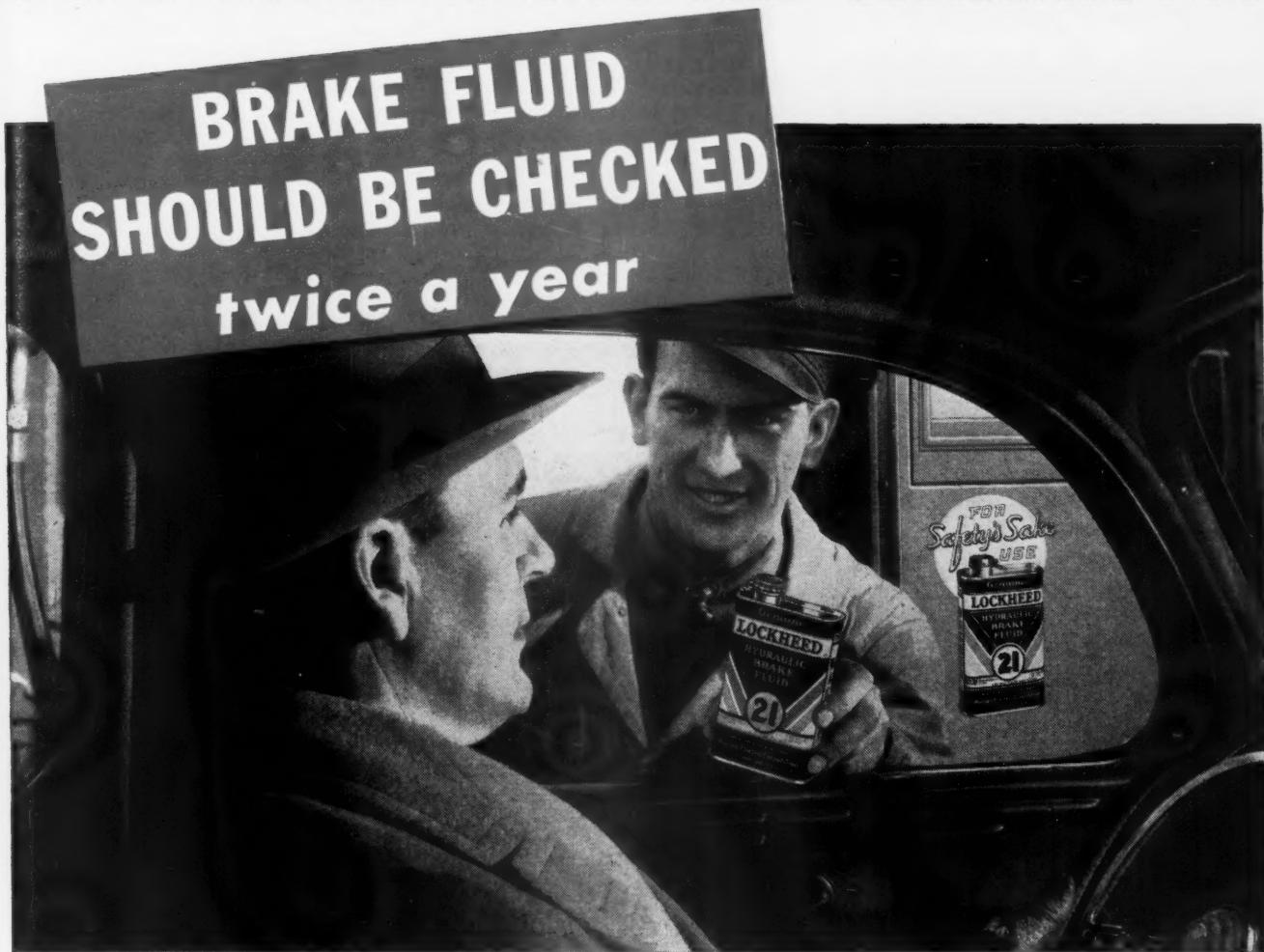


**BRONZE**  
HEADQUARTERS  
NEW CASTLE, PA.



"... and the car dealers say they're not going to push the new cars!"

# Sound Advice to Give Your Customers . . .



*Maintain maximum brake performance  
by using genuine*

## **WAGNER LOCKHEED**

**HYDRAULIC BRAKE PARTS and FLUID**



H45-8

You have everything to gain by telling your customers "For Safety's Sake—**BRAKE FLUID SHOULD BE CHECKED TWICE A YEAR.**" Your personal recommendations will supplement the advice given to millions of automobile owners through Wagner advertisements in POST and COLLIER'S.

It will pay you to "follow through." Get in touch with your jobber relative to your procuring Wagner Lockheed Hydraulic Brake Parts and Fluid, and a Wagner red, white, and blue sign. Also ask about CoMaX Brake Lining.

**Wagner Electric Corporation**

ESTABLISHED 1891

6498 Plymouth Avenue, St. Louis 14, Mo., U. S. A.

In Canada: Wagner Brake Company Limited, 43 Edward St., Toronto

**Remind your customers "BRAKE FLUID SHOULD BE CHECKED TWICE A YEAR."**

## Labor and Shortages

(Continued from page 48)

parts. At one time, Packard had one of the largest press shops in the country, but much of the machinery was made available to industry for war work, and is not recoverable. George T. Christopher, president, said the company plans to rebuild its press shop as soon as room is available.

Hudson Motor Car Co., which had been closed for five weeks because of a foremen's strike, was in production Oct. 20 and turning out around 120

cars per day, and a few light trucks. If materials are available, the company will produce between 10,000 and 12,000 units this year, about 10 per cent of this number being commercial vehicles, according to A. E. Barit, Hudson president. When operating at peak capacity with two lines on two shifts, the company will turn out 950 cars a day. Hudson will spend about \$6 million on its reconversion and postwar expansion program.

While Studebaker, Nash, and Willys were not visited, reports from these companies show that Nash expected to get into production about

Nov. 1, that Willys has been shut down on production of civilian jeeps by suppliers' strikes but expected to get going again soon, and that Studebaker also was closed for the same reason, but probably is now in production again.

Prices of new cars was a question of prime importance at all companies. General Motors spokesmen said that none of the divisions had yet filed prices at the time of the plant tours. C. E. Wilson, president, said that G.M. would ship cars to its dealers in the hope that by the time all of them are supplied, prices will be set. Otherwise, he said, it might be necessary for the plants to close. To attain the 1936-'39 profit margin allowed by OPA under its formula, he said, General Motors would have to expand volume 60 per cent, restore prewar labor efficiency, and get overhead, which has increased greatly during the war, back to the prewar level. An increase in wages, currently being sought by the UAW-CIO, is out of the question without an increase in car prices, he added.

Ford Motor Co., which had submitted price lists to OPA, reported that its prices had been returned by OPA for modification. Although Ford did not state how much of an increase had been asked, it was reported to be at least 15 per cent. George Christopher, Packard president, said his company had submitted an analysis of increased costs to OPA showing an overall increase of 17 per cent. Chrysler had not filed its prices as of Oct. 20, but stated that basic wage rates had increased about 20 per cent over prewar on a weighted basis. Hudson stated that its basic wage rates are up 11 per cent.

According to all company spokesmen, the principal pitfalls to full production are the serious labor situation, with its attendant effect on supplies of parts, and the complex and confusing pricing policy of OPA. There was some division of opinion on whether or not the labor problem can be overcome without crippling strikes, but most of the companies believe they are in for considerable labor trouble. The price situation, however, is expected to be straightened out in time to avoid serious trouble.

## the finest COMPRESSOR MADE

**U.S.  
MODEL  
MK-663**

In appearances, air compressors are pretty much alike—in action they are vastly different.

There is real modern designing and engineering, plus quality materials back of the U. S. Model MK-663 Air Compressor, which accounts for its remarkable performance, dependability and popularity.

U. S. Model MK-663 is a husky two stage, 1½ H. P. air compressor which runs slower, quieter and cooler, requiring less attention and less upkeep. Integral part of the pump is a totally enclosed centrifugal, dirt proof unloader which positively prohibits any danger of burning motors or belts.

U. S. Model MK-663 Air Compressor is quality built from stem to stern and quality in this case has everything in its favor including price.

Send in for free catalog



**AIR COMPRESSOR CO.**

5300 Harvard Avenue • Cleveland, Ohio  
AIR COMPRESSORS HYDRAULIC LIFTS  
LUBRICATING EQUIPMENT

## Production Resumed

Production of rubber battery separators for automobile, civilian aircraft and industrial storage batteries is being resumed for the first time since Pearl Harbor, the United States Rubber Co. announced recently.

The present output of 150,000 a day will be increased as soon as more rubber and manpower become available, said I. L. Cantwell, manager of the company's battery separator department.

# 20 YEARS

from Park Bench to the  
biggest building on the street

Reading time: 1 minute, 46 seconds



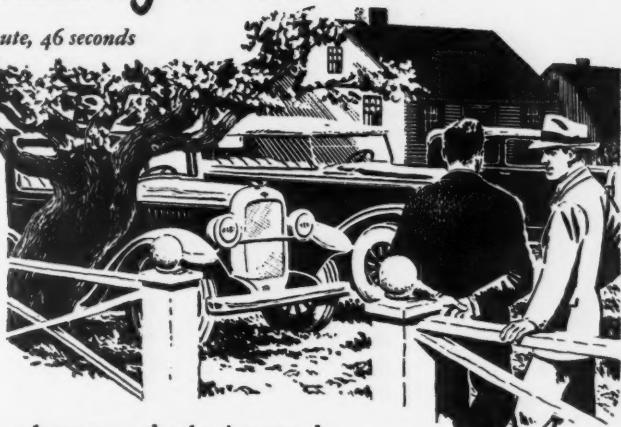
"I finished high school when I was 19 and got married on graduation day. My bride stayed with her folks, while I went to the nearest big town to hunt work. The first two nights I slept in the park. Then I found an outside job washing windows.

"I liked being out in the open. I'd been All-State Center in football. But one day when I saw a guy grinning through a factory window at me, I said, 'What you grinning at, brother?' He said, 'You're husky enough to work in here.' So I went inside.



"It was an automobile factory, and I began to learn a little about cars. But most important at the time, I earned enough more to send for my wife. With our first savings we bought a lot. Then, working after hours for a whole year, we built the five-room house, where our kids were born. We did all the carpentry work ourselves, set out the shrubs, and fixed up the yard.

"Our nice big lawn gave me an inspiration that was the turning point in my life. I fixed up some second hand cars and sold them right off the front lawn. All kinds of people took a fancy to my open air showroom. After two years I hired my first mechanic and my first

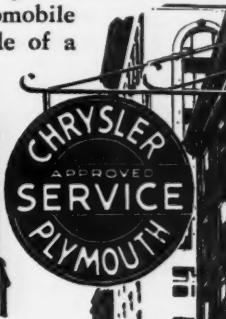


salesman, and sales increased five times over the best I could do alone. I knew I was in business, and quit experimenting with other jobs.

"One thing I noticed about selling cars. I got best results with cars made by Chrysler Corporation. They sold faster and stood up better. They became my favorites and I concentrated on them. One day some factory people invited me to lunch, praised my work. Then they offered me the regular Chrysler-Plymouth dealership for the whole town. I hadn't dreamed of such a thing, but I grabbed it mighty quick, and I've never been sorry.

"The next thing I knew there was a war on and I had to dig in to make my dealership survive. It did more than that. It made good money and grew fast. Now I've bought the biggest building on Automobile Row and I'm shooting for a whale of a business when we have new cars again. I'm 39 now with just 20 years' experience since the night I spent in the park."

NOTE: This is another true and typical story of individual initiative and enterprise.

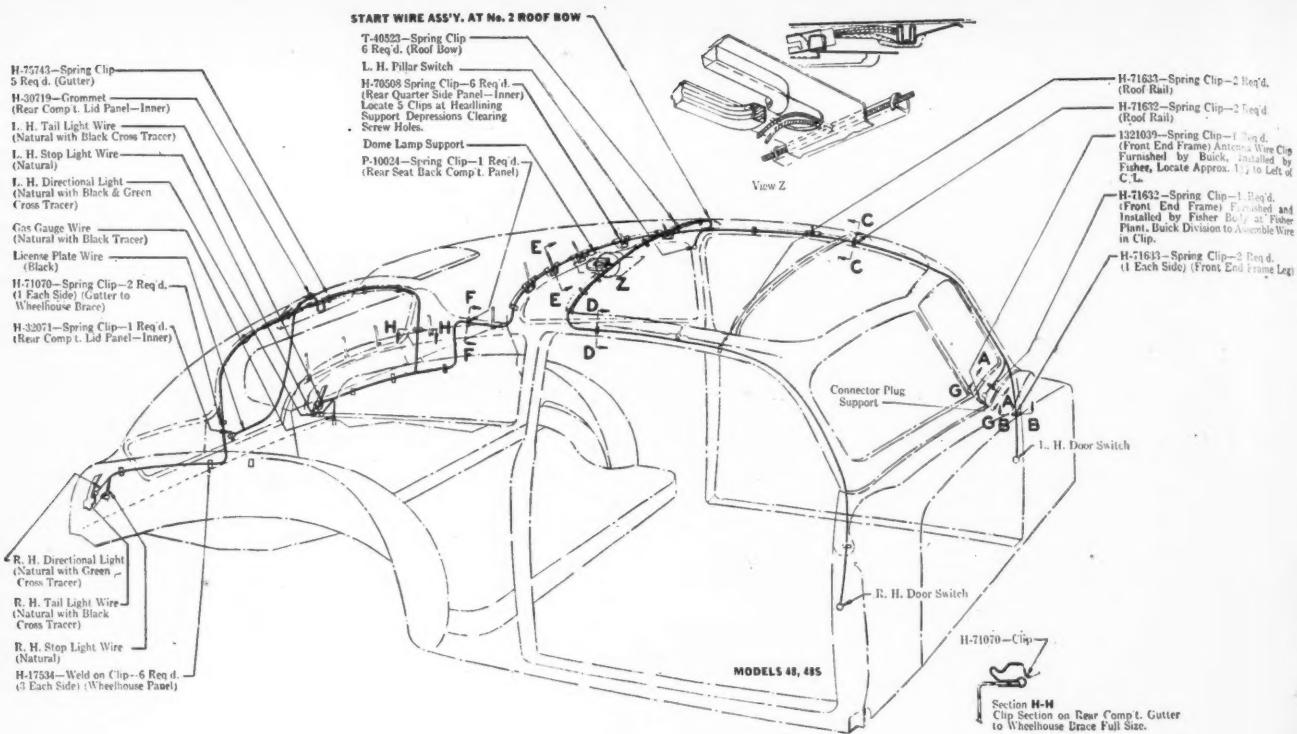


**CHRYSLER CORPORATION**  
**PLYMOUTH ★ DODGE ★ DE SOTO**  
**CHRYSLER ★ DODGE Job-Rated TRUCKS**

REMEMBER THURSDAY NIGHT! The Music of Andre Kostelanetz and the musical world's most popular stars—Thursday, CBS, 9 P. M., E. S. T.

KEEP ON BUYING

VICTORY BONDS



**Body Wiring Diagram, 1942 Buick, Models 48, 48S**

## Clearing House

(Continued from page 46)

When the car is not in motion the exhaust sounds all mixed up as though water gets into the cylinders, steady missing, but cannot seem to isolate the missing to any one cylinder. It idles fairly good. When throttle is opened to run motor about 1500 r.p.m., anywhere in that range or faster, it gets very rough, missing badly.

I tried running on 4 cylinders at a time in proper fixing order, but no difference. Upon retarding the spark and advancing while running, it runs worse with retarded spark.

The distributor is in good condition, cam, bearings, etc. Spark is very good too. Plugs O.K. Valves—compression very good and equal. The motor was completely overhauled recently by a garage.

Checked the carburetor but it seems O.K. If one barrel would be too lean or too rich wouldn't that be taken care of by running on 4 cylinders or is the manifolding arranged differently? I mean that if run on the cylinders 1 and 4 on one side and center on the other, don't these 4 cylinders draw from one throat of the carburetor? If not, then perhaps it could be something wrong with the carburetor?

I wondered whether the hydraulic valve lifters ever give trouble. Num-

ber 2 cylinder on left side of bank seems very weak—in fact, there is hardly any difference in motor speed when the ignition cable is pulled off the spark plug. Yet the compression when running is same as the others which fire good. (Didn't test all cylinders this way.) Have any of these jobs been known to give trouble in any way?

Any suggestions you have to offer will be appreciated very much.—Gene Shermeister, 8th St. & Lincoln Ave., Sheboygan, Wis.

THE first thing that occurs to me as the possible cause of the trouble you are experiencing on the 1937 Cadillac is stuck valves or weak valve springs. In this connection I would suggest you run a lot of free-up oil through the carburetor to see if it overcomes your trouble. I would also suggest you make a careful check of your ignition wiring so as to be sure that none of your high tension installation has broken down and I would also recommend that you make sure the distributor cap is not charred or otherwise defective.

The firing order on this car is 1-8-7-3-6-5-4-2, the even numbers being on the right bank of cylinders and the odd numbers on the left bank. The wiring order on the distributor is 1-2-3-4-5-6-7-8.

While it is possible that the difficulty might be in the carburetor, and

I would certainly recommend a thorough cleaning, I am more inclined to think you will find the trouble in the valves.

## Brake Trouble

I am writing you in regards to a Nash 600, 1941 Model. I have relined all four brakes, installed new brake hoses and master cylinder. Have bled brakes several times to make sure there is no air, but still the car, when brakes are applied, pulls to right. Would appreciate any information you could give me on this trouble.—Cecil a' Harold White Co., Walla Walla, Wash.

THERE are several points which I would suggest you check on your 1941 Nash 600 which pulls to the right when the brakes are applied. While I understand that you have installed new lining, are you sure that the front drums are in good condition and also that there is no grease present? If one drum is scored or there is grease present you will, of course, get erratic brakes which will then tend to pull to one side or the other. If the brake backing plate is loose you will also get the trouble you are experiencing.

There is also a possibility that the springs or shock absorbers are not supplying the same amount of control on both sides of the car.

# *Cold Weather slows up Horsepower*



# CASITE

**Guarantees Quick Starting  
in Winter Weather or  
Double-Your-Money-Back**

- As the thermometer drops and crankcase oil congeals, engines get harder and harder to start. Casite is the *guaranteed* answer to this problem ... for Casite retards congealing of oil, lets motors spin over rapidly and *start*, no matter how cold the weather. And this Winter, still more car owners will join the millions of satisfied Casite users. *Cash in on this overwhelming public acceptance.* Sell Casite to every customer now.

A PINT IN THE CRANKCASE EVERY OIL CHANGE

THE CASITE CORPORATION • HASTINGS, MICHIGAN

CASITE Gives Better and Smoother Performance All-Year-Round

#### **GUARANTEE**

We guarantee that any motor capable of being started in a warm room will start promptly in the coldest weather when Casite is added to the crankcase according to instructions. If your car fails to start quickly, you get double-your-money-back by filling out guarantee certificate and mailing it to The Casite Corporation, Hastings, Michigan. Maximum refund is \$1.30 per pint, twice the nationally advertised price of Casite.

LIST PRICE

**65¢  
A PINT**





Interior of the engine rebuilding department of the John F. Daly, Inc., Ford establishment, Phila., Pa. Jim O'Hara, manager of the department, can be seen at the far left. More than 5000 Ford engines have been completely rebuilt in this shop during the past three years.

## Philadelphia Shop Rebuilds 5000 Engines in 3 Years

Assembly line methods not only are relied on at auto factories in Detroit, but are in use quite successfully in the engine rebuilding department of the John F. Daly, Inc., Ford dealer establishment of Philadelphia, Pa.

More than 5000 Ford engines have been completely rebuilt over a period of three years in this shop. Eleven engines a day are being turned out and indications are that this figure will be stepped up during the coming months.

Jim O'Hara, service manager heads the 14 men employed in the department. At one end, engines are completely disassembled, cleaned and then rebored according to required specifications. Then engines are moved along the line by means of an overhead hoist. At each station, notations on the side of the block are made in chalk so that the next man working on the engine can quickly see what is required along the line of reassembly. New engine parts are conveniently located and are adjacent to the "assembly line" so there is no lost motion in hunting required parts.

In the crankshaft grinding section, two operators devote their full time to the task of crankshaft grinding. The machines, incidentally, were built right in the shop under O'Hara's direction for this specific purpose. The department is also equipped to rebuild units such as distributor, fuel pumps and carburetors.

## Appointment Named

Lt. Col. Foster Stewart, formerly advertising and sales promotion manager of the tire division of United States Rubber Co., after three years overseas service with the Army Air Forces, has returned to the company and will be in charge of distribution

planning for the tire division, according to announcement of Howard N. Hawkes, assistant general manager, tire division.

## Mueller Electric Co. To Expand Facilities

The Mueller Electric Co., Cleveland, Ohio, has announced plans for a plant expansion program which will add about one-third more area to its present manufacturing space. The firm manufactures battery and test clips.

The first phase of the program is already underway. Construction of a new plating and finishing plant is now underway. The new department will be completely equipped with the latest plating and bulk handling equipment, it was stated.

## Packard Field Men Hold 3-Day Meet

Reports on dealer expansion and policies to govern distribution of first postwar cars keynoted the quarterly meeting of regional and zone managers of the Packard Motor Car Co. concluded at Detroit last month.

The field men, meeting jointly for the last time before 1946 models start rolling from the Packard assembly line, spent two days in group discussions, and closed their meeting with individual conferences at factory offices of company executives.

Discussions during the three-day meeting, directed by Packard vice president and general sales manager L. W. Slack, dealt with dealer expansion, distribution policies, business management and sale promotion.

Slack told the field managers that the company's dealer expansion and development program, aimed at a distribution goal of 200,000 cars annually, was currently 84 per cent complete.

## Pontiac Cleveland Zone Re-established

Re-establishment of the Cleveland Zone of Pontiac Motor Division is announced by D. U. Bathrick, general sales manager. Closed since December, 1941, under wartime consolidations, the zone will be managed by H. T. Thompson, formerly zone manager there and well known in the Cleveland area.

H. T. Thompson will be assisted by H. A. Quick as zone office manager, Frank D. Carter, service manager, and George E. Thompson, business management manager.



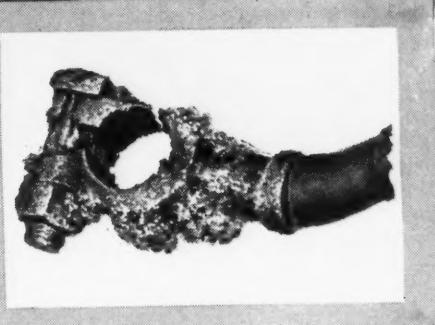
"He says it's a divining rod for locating mermaids!"

# AUTO-LITE BATTERY CABLE with **ANTI-CORRODE** TERMINAL

This type standard  
on sixteen makes  
of cars



*Prevents  
Ruinous Corrosion  
like this...*



The new Auto-Lite Anti-Corrodé Terminal resists corrosion trouble — does not eat away when attacked by battery acid. Properly installed, this terminal

resists corrosion that builds resistance and restricts proper current flow to the starter and other electrical units.

Be sure to get the complete story.



THE ELECTRIC AUTO-LITE COMPANY

TOLEDO 1

Merchandising Division

OHIO

# AUTO-LITE

Automotive  
WIRE and CABLE

TUNE IN THE AUTO-LITE RADIO SHOW STARRING DICK HAYMES—SATURDAYS, 8:00 P.M.—E.T. ON CBS

NOVEMBER, 1945

When writing to advertisers please mention Motor Age



## New Cars Off Rationing List

**N**EW cars, soon to be delivered to dealers, will not be rationed, OPA and WPB announced in a joint statement issued late last month.

The Office of Price Administration and the War Production Board said that with nearly 24,000,000 cars now on the road, and new production underway, "there is no longer danger of a general breakdown of the automotive transportation system."

The decision against rationing means that, except for any sales priority set up voluntarily by dealers, new cars will be sold on a first-come-first-served basis.

OPA said that all records and certificates used in the car rationing program and now held by the trade or the public "are valueless and may be disposed of."

## Surplus Property Office Revamped

**R**EORGANIZATION of the Surplus Property Administration to speed the disposal of billions of dollars of surplus property was announced by W. Stuart Symington, newly-appointed Surplus Property Administrator, at the conclusion of the ceremony of taking the oath of office.

Under the reorganization, the Surplus Property Administration, which Congress established last month to take over the functions of the old Surplus Property Board, will be decentralized among five assistant administrators to speed up the solution of pressing problems of surplus disposal.

Chairman of the Surplus Property Board since July, Mr. Symington was appointed by President Truman to be Surplus Property Administrator, the single head of the new Surplus Property Administration. It was emphasized that the Surplus Property Act is not otherwise affected by the change.

## Rubber Program Director Office Discontinued

**T**HE position of Director of Rubber Programs, which has been filled since last July by Robert S. Wilson, vice president of Goodyear Tire & Rubber Co., will be discontinued as of Nov. 3, when the Civilian Production

Administration takes over the functions of the War Production Board, it was announced recently.

Mr. Wilson will serve as an adviser to W. L. Batt, chairman of the Inter-agency Policy Committee on Rubber of the Office of War Mobilizer and Reconversion. This committee is preparing a report on the entire rubber situation.

WPB's former rubber bureau is being reorganized as the Rubber Division of the Civilian Production Administration. Director of the division will be W. James Sears and the deputy director will be E. Dorrance Kelly.

## November Tire Quota Same as October

**P**ASSENGER tire and large size truck tire quotas for November will be the same as for October—2,500,000 passenger cars and 250,000 for trucks—the War Production Board and the Office of Price Administration announced.

The November quota of small truck tires, size 7.50 and under, however, was reduced from 500,000 in October to 350,000. This reduction of 150,000 tires for replacement uses was forced by a combination of heavy demand for small truck tires to be used as original equipment on new trucks and a smaller increase in production than anticipated.

The passenger tire shortage continues to remain most acute with demand for exceeding available supplies, OPA said. OPA local boards are being advised to continue screening all applications carefully to assure that drivers needing their cars to reach or perform their jobs are supplied first.

## Used Car Sellers Must File Certificates

**S**ELLERS of used passenger automobiles, rather than purchasers, hereafter will be required to file certificates of transfer with local OPA boards, the Office of Price Administration announced.

This action became effective Oct. 22, 1945.

Filing of the certificate is necessary, the price agency said, to keep a check on prices for used cars.

When gasoline was being rationed, the agency added, it was necessary for the purchaser of an automobile to go to his local rationing board to obtain a gasoline ration book. At the same time, the purchaser usually filed a Purchaser's Statement in which the price he paid for the car appeared.

With action, the Purchaser's Statement is being abolished.

The same procedure with regard to filing of certificates of transfer by sellers of used commercial motor vehicles and used motorcycles is to be provided by OPA shortly.

In the case of used motorcycles, as is now being provided in sales of used passenger automobiles, the Purchaser's Statement is to be abolished, relieving the purchaser of having to make a trip to his ration board. A purchaser's statement was not required for used commercial motor vehicles.

## Surplus Property Order On Vet Sales Changed

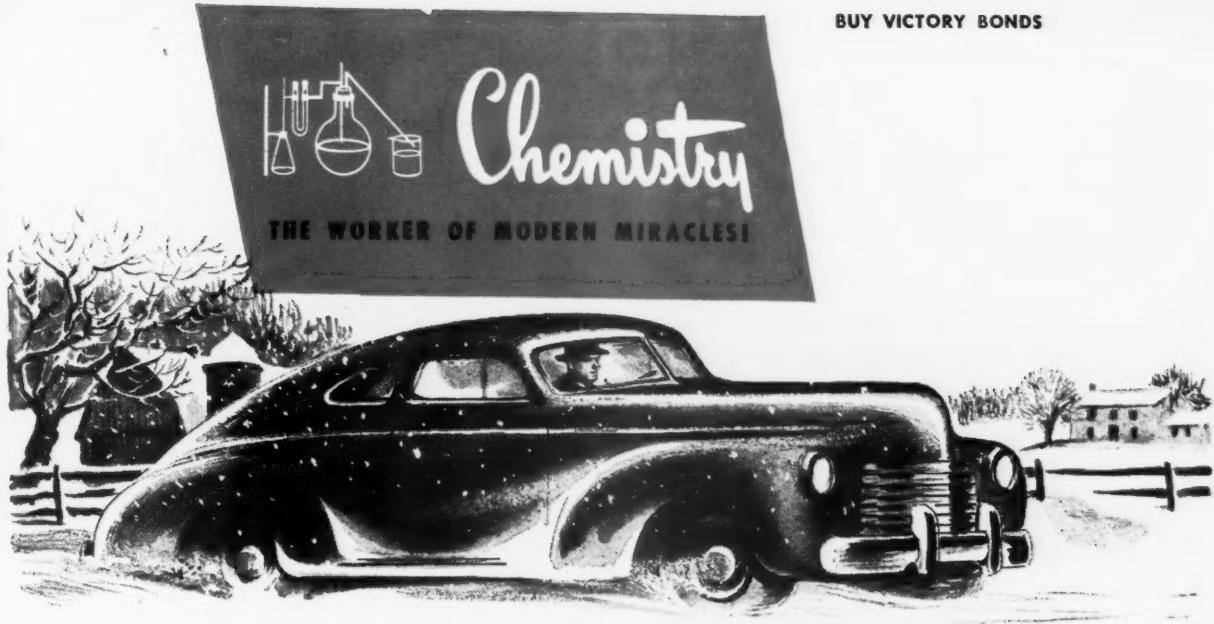
**D**RASTIC changes in Regulation 7 governing sales of surplus government property to veterans were announced by the Surplus Property Ad-

(Continued on page 58)



"Every time I take this hula dancer for a ride the wheels start to shimmy."

BUY VICTORY BONDS



## WHIZ MOTOR RYTHM

**MAKES WINTER**  
**STARTING EASY!**

A pint of WHIZ MOTOR RYTHM added to the oil in the crankcase means quick, easy starting no matter how low the temperature drops! That's why *right now* is the time to tell your customers all about MOTOR RYTHM . . . the time to display it right up front where they can see it. Here's another tip on cold weather driving that your customers will appreciate. A pint of MOTOR RYTHM added to the transmission and differential assures fingertip gear-shifting all winter long!

Every motorist needs WHIZ MOTOR RYTHM—*summer and winter*—to keep his engine free of carbon and other harmful, power-wasting deposits. That's why it sells fast and builds *repeat sales*. Feature WHIZ MOTOR RYTHM the year 'round. *R. M. Hollingshead Corporation, Camden, New Jersey; Toronto, Canada.*



MANUFACTURER OF FLOOR WAXES • POLISHES • DISINFECTANTS • INSECTICIDES • SOAPS • CLEANERS • HYDRAULIC FLUIDS • RUST PREVENTIVES • RADIATOR SPECIALTIES • SPECIAL PURPOSE OILS

## Washington Rulings

(Continued from page 56)

ministrator. The announcement said the changes were worked out with representatives of the three larger veterans' organizations to make it easier for veterans to get the benefits from surplus property which Congress intended.

W. Stuart Symington, Surplus Property Administrator, emphasized that further changes would be made if they were found necessary and announced a campaign to educate the veteran on

his surplus property rights and how to exercise them.

Major changes announced were:

1. Eliminate the \$2,500 limit in purchases, though minimum and maximum limits will be set by the SWPC in collaboration with the disposal agencies and with the approval of the Administrator;

2. Allow the veteran entering retail business to buy an initial stock of goods for resale to the public;

3. Allow the veteran to deal directly with disposal agencies after certification by Smaller War Plants Corporation at the lowest price at which

such property is sold; he may have SWPC act as his agent but he is not required to do this;

4. Permit the veteran to buy automotive or other equipment which is required by his employment;

5. Provide that credit may be extended to the veteran under terms and conditions established by the agency which sells the goods;

6. Give veterans' rights to surplus property to ex-service members who have been released from active service though not technically discharged.

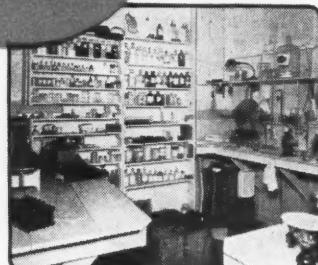
With one exception noted in paragraph 4 in order to qualify as a purchaser of government surplus property, the veteran must be establishing or maintaining his "own" small business, professional or agricultural enterprise, and must be certified by the SWPC. However, under the new regulation upon receipt of his certificate from SWPC the veteran can buy direct from any designated disposal agency that has available and handles for sale the types of property desired.



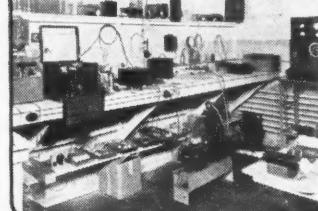
## DEALER SATISFACTION

### IS PRE-PROVED FOR JOBBER'S SALESMEN

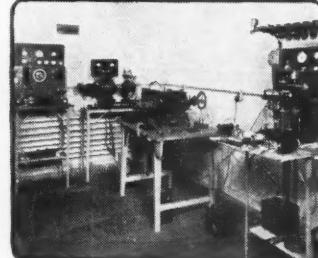
Laboratory —  
Raw Material  
Control



Finished Product Testing Apparatus



Finished Product Testing Apparatus



Wells is the basically better line for you because basic manufacturing pre-proves performance on the job. It assures your customers of uniformly dependable Coils, Condensers, Contact Points, Relays — provides you with a pre-proved ignition line that is built to produce easier sales, faster turnover, better profits.

"Inside Wells" — Request your Wells jobber to show you a copy of the pictorial story of Wells basic manufacturing. It covers superior quality ignition parts distributed through leading jobbers.

**WELLS MFG. CORPORATION**  
Fond du Lac, Wisconsin

**WELLS IGNITION**  
*Quality Tells -- Demand WELLS*



"It's for parking too close to a fire plug . . ."



**"Van Dorn"**

**1/2" STANDARD DRILL**  
**\$53.00**

**HOLE SAWS** for use with the 1/2" Standard Drill are available in sizes from 5/8" to 3 1/2" at small extra cost.

## To Cut 3 1/2" Holes with a 1/2" Drill

That's a fact! A Van Dorn 1/2" Standard Drill has a capacity of 1/2" in steel, 1" in hardwood. Equipped with Van Dorn Hole Saws, it cuts clean, round holes up to 3 1/2" diameter in any material a hacksaw will cut—making faster, better work of such jobs as installing radios, heaters, clocks and other automotive equipment. And, mounted in a Van Dorn Drill Stand, the 1/2" Standard makes a powerful drill press, with 6-to-1 leverage for heavy duty work.

Now is the time to buy the kind of equipment that helps

you get more business by turning out better, more accurate work—and turns out the work in less time so that you make more profit.

Order Van Dorn Drills, Hole Saws, Grinders, Valve Resurfacers, Valve Seat Grinders and other shop equipment from your Van Dorn Distributor now. And send for our catalog so you can check up on the many types of money-making tools and accessories in the complete Van Dorn line. Just write to: The Van Dorn Electric Tool Co., 727 Joppa Rd., Towson 4, Maryland.

For Power Specify

**"Van Dorn"**

(DIV. OF BLACK & DECKER MFG. CO.)

**PORTABLE ELECTRIC TOOLS**

# ONLY MCKAY Multi-Grips give you ALL THESE advantages

**✓ Only** MCKAY Multi-Grips have two traction bars per link providing double efficiency. Bars are securely welded to links at scientifically determined angle for best results.

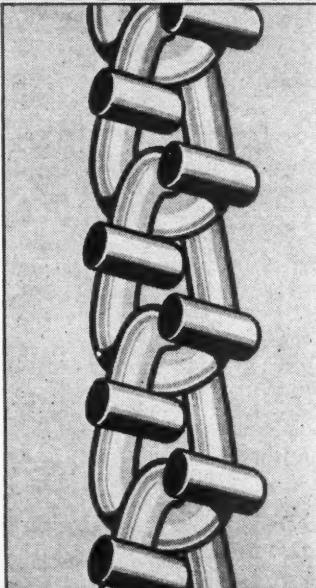
**✓ MCKAY** Multi-Grip design provides effectiveness that actually increases with wear. As the bars wear flat they become progressively sharper and "dig in" all the better.

**✓ MCKAY** Multi-Grip's double bar design provides more traction surface because the entire surface of both bars contact the road . . . a lot of extra "bite" for so little extra cost.

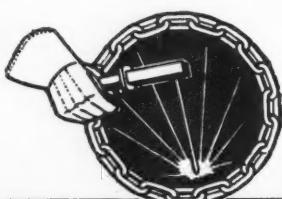
**✓ MCKAY** Multi-Grips minimize side slip and power skids because the traction bars are not only positioned scientifically but also utilize the gripping power of both longitudinal and end surfaces.

**✓ MCKAY** Multi-Grips do wear longer! Traction bars are made from the same heavy, case-hardened steel as the links. The bars take the punishment, postponing severe link wear for many miles. Remember, only MCKAY Multi-Grips give you all these advantages.

## EASIER TO PUT ON AND TAKE OFF WITH KLIP-LOCK!



**✓ Only** MCKAY Tire Chains have the exclusive easy-to-use Klip-Lock Fasteners. Nothing to jam, clog or stick. Draws chain up tightly, locks securely, but unfastens with one hand. Always works!



**Multi-Grip and Regular Tire Chains  
are DISTRIBUTED THROUGH JOBBERS**

**THE MCKAY COMPANY**  
PITTSBURGH, PA.

Sales Office: YORK, PA.

## Selling Service

(Continued from page 23)

sonally. Locating the prospect will not be difficult with introduction of new models, but it will become increasingly important as car manufacturing increases and competition returns.

A midwestern dealer has adopted the plan of having salesmen for used cars send out 10 cards a day to names from the owner list. One part of the card contains a section which is torn off and retained by the salesman as a reminder to call on that prospect within ten days. The salesman signs his name to the card, mails it, and then contacts the prospect by phone or in person.

A complete car registration list for the sales territory served by a dealer permits him to analyze his home market. He can readily determine, for instance, what proportion of the total sales job has been done in his territory or is being done, and how much of the market he has been able to secure. He can learn what competition is doing and where to concentrate his efforts — whether to go after his owners, or after competitive make owners. He knows at all times how his market is going locally, enabling him to keep, inexpensively, "fingertip" control on his sales situation.

Ordering parts stocks and service items can be put on a more scientific basis by knowing the number of owners in the community and the age and model of their car.

Merchandising experts advise continuing contact with car owners to maintain and whet their interests and to obtain their service business. Successful contact with owners and prospects is based on a simple organization plan:

1. Maintain a complete and efficient customer record. This should provide a card index for every customer, showing name, occupation, address, phone, make of car and year, services and products purchased, and a record of follow-ups.

2. A list of all prospective customers in the trading area, showing name, occupation, address, phone and make of car.

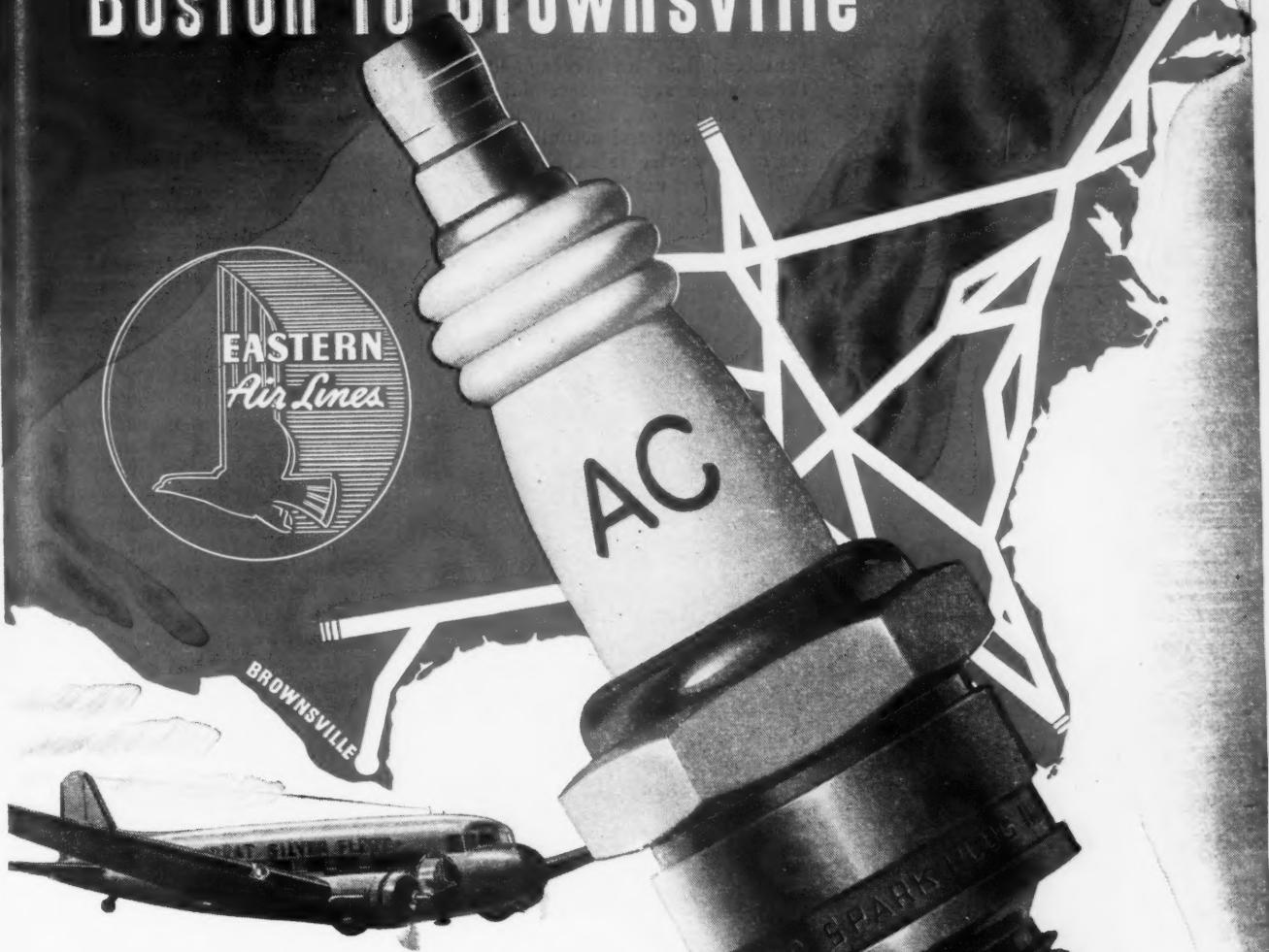
3. A systematic method of customer follow-up with reminders and mailing pieces to insure regular, periodic car servicing and continuing contact with owners.

4. A systematic method of prospect and customer solicitation, timed to take advantage of sales opportunity.

Sounds elemental? It is, but many car dealers and shop operators appear to have forgotten the fundamentals of selling—of merchandising—and will have to start all over. Salesmen have to be trained not only in virtues of

(Continued on page 62)

# Boston to Brownsville



FOR PLANE OR CAR,  
AC IS CHOSEN FOR  
UTMOST  
RELIABILITY



Aircraft  
Spark Plug

Automotive Spark Plug

Another of the world's big air fleets to standardize on AC Spark Plugs is the Great Silver Fleet of Eastern Airlines.

The tradition of *utmost reliability* that has built up around these AC Ceramic Aircraft Spark Plugs had its beginning in World War I, when AC produced the world's first and only successful ceramic spark plugs for Liberty engines. Following that, came AC participation in the triumphs of record-breakers,—Lindbergh, Acosta, Maitland and Byrd, the Constellation and the C-97.

Throughout World War II, AC Ceramics have fired the engines of countless Allied fighters and bombers, in every theatre, on land and sea.

AC was able to develop these Ceramic Aircraft Plugs because of its pioneering in automotive fields—better plugs for cars and trucks and buses. That's why 2 out of 4 new cars and trucks were AC-equipped—and why automotive dealers everywhere find it profitable to recommend AC's.

**AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION**

LET'S FINISH THE JOB—BUY VICTORY BONDS

NOVEMBER, 1945

When writing to advertisers please mention Motor Age

AC  
**SPARK  
PLUGS**

## Selling Service

(Continued from page 60)

the new cars, but in how to unearth prospects and how to contact them. A car owner list offers the springboard from which all sales solicitation can start.

Some dealers declare they are not in a position to start solicitation of additional business at this time. They say they do not have a sufficient supply of new models to satisfy the demand, nor do they have sufficient man-

power to cope with their present volume.

However, a survey made recently in a midwestern city disclosed the fact that active solicitation of business soon will be required if service operations are to maintain present volumes. In that particular city if a dealer contacted had an average of only three more service mechanics each, every dealer or shop owner would have to get out and actually campaign for more service sales.

Manpower problems are beginning to be solved in service departments

and mechanics are drifting back. In some cases, war veterans are returning to the service bench and old time mechanics are coming home from war jobs. To get and keep service business requires continuing contact with all owners and customers. It also means going after the potential offered by new residents of a territory.

Official car registration lists were not tabulated in 1942 and 1943. Hence, many dealers neglected to maintain contacts with owners. In some industrial counties where war production was concentrated, dealers believed that war workers would return to their home communities when their jobs ended. This has not always been the case. Many of the workers are planning to settle in the communities to which they migrated. Such workers comprise a huge potential source of repair business immediately. They have money to spend and will spend it, if contacted properly.

Official automobile registration lists contain the names, addresses of owners, make of car and year model. Considerable "screening" of such lists must be done to clean them of non-useful names, to correct spelling and addresses, and to sort them alphabetically. In spite of every precaution taken to assure accuracy, dealers and independent operators who regularly contact owners service their lists continually, to keep them up to the minute. When they receive a new owner list they immediately run through it, eliminating the names of people who have moved, bought other cars, died, or sold or wrecked their cars.

The new owner lists are checked against customer files, to find people who have recently moved into the sales area, or who do business with them even though they live outside the area. These names are added to the files as future prospects. As a final precaution, about every six months these dealers send through the post office a "return postage guaranteed" mailing piece, by which the "moves" and "dead names" are reported back to them. These changes are made in the master file.

No car owner list is worth a grain of salt unless it is properly understood and used. Car owner lists enable "rifle-shot technique" in contact prospects, rather than scattered birdshot of general advertising. They enable material to be sent direct through the mails, without waste or uncertainty. An owner list can be a dealer's most powerful weapon for getting, and holding the business he must do in the expanding selling era just ahead.

### Automatic Dimmer

Electronic equipment, utilizing the electric eye to dim headlights automatically, has been designed for automobiles.



### PROTECT EVERY MOTOR NOW— WITH MARVEL MYSTERY OIL

The pressure on valves, rings and cylinder walls goes up as the temperature goes down and lubricants get sluggish and weaken. Now, more than ever before, ALL your customers need the protection of MARVEL MYSTERY OIL in the crankcases of aging motors . . . it re-enforces lubrication and guards those vital upper cylinder areas where lubrication failures and many motor troubles start.

Added to all oil, transmission, differential and steering greases, it assures quicker starts and easier shifting and steering—it pours at 70° below zero! Added to gasoline, it prevents the accumulation of power-killing fuel residues and gums. MARVEL MYSTERY OIL is a remarkable aid to winter-time operation. Have it ready. EMEROL MANUFACTURING CO., Inc., 242 W. 69th St., New York 23, N. Y.



# MARVEL MYSTERY OIL

# You were wrong THE TIME YOU LEFT THE OIL ON THE FLOOR



*...but you're right*

Everybody makes a mistake now and then . . . but you never "slip up" when you replace worn-out or inefficient spark plug wires with Packard Four-Forty ignition cable.

Packard Four-Forty is the ignition cable that resists the deteriorating effects of heat, cold, oil, moisture, corona and abrasion . . . safeguards engine efficiency regardless of temperature and humidity. The tough

## WITH PACKARD CABLE

protective sheath, over an inner reinforcing braid, provides effective protection under the most severe conditions.

The replacement choice of leading service stations, car dealers and garages, Packard Four-Forty will keep the ignition system of your customers' cars in top working condition. When you use Packard Four-Forty, you know it's right for the job.

KEEP BUYING VICTORY BONDS



*Packard*  
REG. U. S. PAT. OFF.  
TRADE MARK

PACKARD ELECTRIC DIVISION  
GENERAL MOTORS CORPORATION  
WARREN, OHIO



**FOREMOST BUILDER OF AUTOMOTIVE AND AVIATION WIRING**

## Brightening Shop Floors

(Continued from page 25)

floor in a shop is no task for an interior decorator. It is strictly a construction problem, and if handled properly can repay its initial investment through the medium of better work from mechanics, and a cleaner, uniformly better floor throughout the shop. Also customers are quick to note improvements in a shop, and feel they are benefiting from the change as well as the owner.

Your present gray concrete floor can be re-topped with white cement.

However, before this can be done, the present floor will have to be "scraped" or chipped to form a suitable bond with the white cement "finish." After this has been completed, 2 in. of white cement can be "poured" over the old concrete, and troweled down. After brushing, watering and hardening, the white cement floor is ready for use—a smooth white floor which reflects light.

The other method of improving reflecting qualities in a concrete floor as previously mentioned in this article is by painting. Glare enters as a factor when paint is contemplated. A white or oyster floor enamel is the most

suitable color for light reflecting use on concrete, authorities say.

But before you start running with the paint and brushes, several items must be considered carefully or else your painting job will boomerang. Floors laid directly on ground or cinder bedding should first be checked for moisture. Several pieces of linoleum can be placed on the floor in various parts of the shop for a few days. If after that time, the underside of the linoleum shows any large quantity of moisture, then any painting attempt should be shelved until proper drainage facilities are installed.

On the other hand, if the floor is perfectly dry, the stage is set for immediate action. Grease and oil can be removed with special degreasing solutions. Rinsing with water is next until all the solution is removed. When this has been completed, then the actual painting can be started.

Acid etching is recommended in some instances also before painting on concrete because of the alkalies present in concrete. A 10 per cent solution of muriatic acid should be used for etching—neutralizing destructive actions on paint films. After several hours following this protective action, the floor is sufficiently dry to start painting.

Good, hard drying floor enamels are available in several colors, and can be selected to suit the shop owner's requisite. Various resin base paints are now being experimented with to find a suitable floor covering, and several plastic manufacturers have hinted that new floor finishes will find their way into postwar markets and revolutionize present floor finishes.

Whether you use white cement or white paint to improve undersurface lighting, the important thing is that it be done. Eye-strain can definitely be cut to a minimum and work efficiency can be stepped up in shops employing this improvement.

Take a look at your shop floor. What are you going to do to improve it?

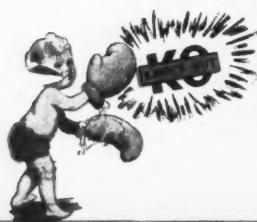
## STANDARDIZE WITH "Knock-Out" VALVE SEAT RINGS . . . . INSERT THEM WITH A K-O RESEATER

Your jobber will be glad to give you complete information . . . Ask him today without delay!

MODEL R204  
UNIVERSAL  
RESEATER SET



REPAIR TODAY  
THE K-O WAY!



SEE YOUR "K-O" JOBBER OR WRITE TO  
**K.O. LEE COMPANY, ABERDEEN, S. D.**

Manufacturers of Fine Tools for Over Thirty Years

MORGAN MOTOR COMPANY



"I was just showing Miss LaMure the spacious compartment!"

# 7 COMPLETE TOOLS

*in 1 compact kit*



SEVEN COMPLETE TOOLS are in the Thor Multi-Matic Kit . . .  $\frac{1}{4}$ " and  $\frac{1}{2}$ " Drill, Grinder, Sander, Wire brush, Polisher and Hole-Saw. Each is available as a unit; any unit can be converted into other tools with interchangeable attachments.

Recognized as superior in performance, Thor pneumatic tools have long been standard in factory production. Now, you can get the same advantages of smaller size, greater power, dependable operation and lower maintenance in Thor Multi-Matic Air Tools, especially designed for service shop work. For full details write for Catalog No. 80 or see your nearest Thor dealer.

INDEPENDENT PNEUMATIC TOOL COMPANY  
600 W. Jackson Boulevard, Chicago 6, Illinois

New York

Los Angeles

**Thor**  
PORTABLE POWER  
**TOOLS**

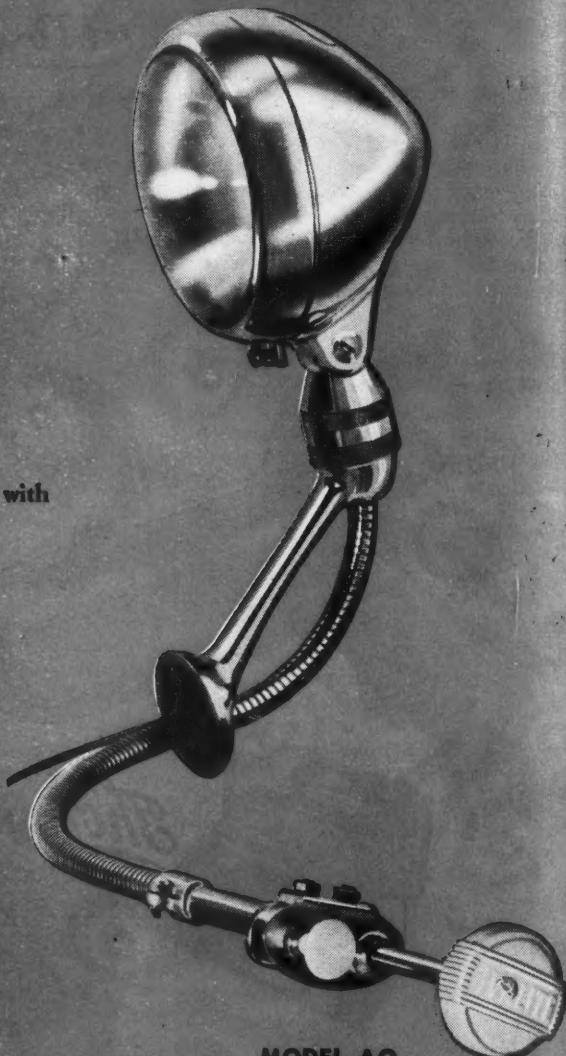
PNEUMATIC TOOLS • UNIVERSAL AND HIGH FREQUENCY ELECTRIC TOOLS • MINING AND CONTRACTORS TOOLS



MODEL G

# IVALITE

## makes light work at night



MODEL AO

**IVALITE** is the finest, top-quality spotlight on the market today. It's a de luxe lamp, precision-made, with a gleaming, heavy-chrome finish. And it's built to give years of dependable trouble-free service.

**IVALITE** Model AO is the only spotlight with the exclusive remote-control feature. Thus, it can be mounted on the right-side of the vehicle and operated by the driver from his side of the dash, within easy reach. The direct-control model, G, is mounted through the roof of the cab and controlled from the driver's-seat, making an extremely compact, serviceable unit.

On both models the head turns in a complete circle, as well as up and down, and throws a powerful beam one-half-mile long.

Standard equipment, Mazda sealed-beam spotlight unit, most powerful lighting yet developed. 6-8 volt type only. For special equipment, IVALITES are available with 12-16 volt bulbs, and with red or amber lenses.

Truck-fleets . . . Police and Fire Departments . . . trouble-shooting repair-crews . . . passenger-cars . . . all will find **IVALITE** a very necessary accessory for night-time duties, as well as for safety after dark.

Here's a brand new item that is packed full of eye-appeal and packed full of service. Ask your jobber about **IVALITE** spots today, or write direct.

**ARROW SAFETY DEVICE CO.**

Mount Holly, New Jersey, Sole Distributors

Manufactured by Arnold Motor Company, Warsaw, Ind.

SAFETY  
**ARROW**  
DEVICES  
SAFETY AFTER DARK



## Keeping Cool

(Continued from page 27)

"It's against the rules. Do you want to stay, or do you want your car fixed?"

The stranger scowled. "Okay, I'll set in the office. But you better fix it right this time."

"I never knew we had a rule like that," admitted Tommy when the stranger had retreated to the office.

"I just made it," said Pop.

"What do you suppose went wrong?"

Pop rubbed his ear a few seconds and then slid his fingers through his white hair. "I guess we'd better take off the head," he said.

"There couldn't be anything wrong inside the engine," Tommy insisted.

"We checked about everything else. You jerk the lid and then call me."

As soon as Tommy had lifted the cylinder head he studied the gasket. He could not see anything amiss. When he called Pop, the latter pried the gasket from the block. He took it over to the light at a bench and examined it carefully.

"There's the trouble," he said, pointing to the narrow strip between the No. 2 cylinder hole and a water-passage hole. "It's got a leak there as fine as a hair."

Tommy stuck his tongue in his cheek and thought a moment. "That oughtn't to make the engine heat up so fast," he said. "All it would do would be to let a little water into the cylinder."

"It ain't as simple as all that," said Pop. He tossed the gasket onto the bench and returned to the headless engine. "When a leak's as fine as that one," he pointed out, "water can't get through from the water jacket."

"Then what—" began Tommy.

"But it is big enough for pressure from the cylinders to get into the water jacket. It happens on every compression stroke and every power stroke."

"I don't see how that would make an awful lot of difference," said Tommy. "The water would still be there to cool the cylinder."

"You might think so, but it wouldn't. The pressure blows most of the water out from around the cylinder, and the cylinder gets hot enough to boil the water that stays behind. And not only that, the temperature in the combustion chamber when the gas burns gets as high as 5000 degrees and you can guess what a shot of that does to water. Also the pressure forces some of the water out of the overflow pipe in the radiator. With less and less water in the system, you're bound to get overheatin'."

"You've got to think of everything in this business, don't you?" asked Tommy.

"You sure do," Pop agreed. "And it's always the one thing you don't think about that causes trouble."

"But what can you do in a case like this?" asked Tommy. "We can't jerk the head every time an overheated engine comes in."

"I guess not," admitted Pop, "but it wouldn't be a bad idea. The jam we got into on this job was partly our fault. This smart guy wanted a fast, cheap job. We should 'a' told him we never do a good job on that basis. Then he wouldn't 'a' had no kick if anything went wrong."

"You'd think customers would have

learned that after all these years."

"But they never have and it's a bad time now to start tryin' to learn 'em. Nowadays everybody wants somethin' for nothin'—big nations tryin' chisel off us and lazy lugs expectin' the government to keep 'em. But you can't run a business like that. Around here we give customers what they pay for—no more and no less."

"We'll give this customer everythin' that's coming to him."

"You mean his car. As far as he goes, I should 'a' socked him in the jaw, only I never hit a guy that's

(Continued on page 70)

## To you who have maintained Transportation NIEHOFF says

**"WELL** **DONE"**



In the transition from war to peace, we pause to commend the thousands of Automotive Servicemen through whose untiring efforts the nation's transportation has been maintained.

This achievement, in the face of a scarcity of parts, labor and materials, called for the highest skill, ingenuity and determination. A vital force in speeding the Victory—a job well done.

C. E. NIEHOFF & CO., 4925 Lawrence Ave., Chicago 30, Ill.

Pacific Coast Branch: 1342 S. Flower St., Los Angeles 15, Calif.  
New York Warehouse and Sales: 250 W. 54th St., New York 19, N. Y.

# NIEHOFF

APPROVED QUALITY PRODUCTS

**NEW  
WRENCH BENCHES  
AND CHESTS**

**OUTSTANDING  
NEW HYDRAULIC JACKS**

**MORE NEW  
BANTAM PORTO-POWER  
CREATIONS**

"**N**EW" is a big word in Blackhawk's plans today! Stay in close touch with your Blackhawk Jobber — because Blackhawk will spring surprise upon surprise — bringing you revolutionary new products that will ease your work and build your profits. In the past, Porto-Power, Hydraulic Hand Jacks, Hydraulic Service Jacks, Bantam Porto-Power and Nugget Socket Wrenches have presented a continuous parade of tradition-smashing service equipment. And the full array of these service-proved and established products will soon return. Further, Blackhawk will again take up its stride as a pace setter with a succession of still greater and more revolutionary new money-makers for you! So "Watch Blackhawk" for startling announcements.

**BLACKHAWK MFG. CO., Dept. M 6115, Milwaukee 1, Wisconsin**

# BANK ON BLACKHAWK a MINT-FULL of NEW Money-Makers

**NEW**

**DOUBLE-DUTY**

**NUGGET WRENCHES**

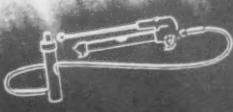
**NEW PORTO-POWER**

**DEVELOPMENTS**

**NEW**

**NEW BUSINESS-BUILDING**

**MERCHANDISERS**



## Keeping Cool

(Continued from page 67)

younger than me. Or bigger," he added with a grin. "But seriously, we want to be extra careful with the coolin' system jobs we do this fall. Every car on the road now is practically a jalopy. When a guy drives in and says all he wants is some anti-freeze, we want to take time to put him wise. Anti-freeze in a coolin' system that's snafu, ain't gonna do him much good.

"In the first place, the system has

to be clean. Accumulations of rust and scale can plug up water passages in the block and cylinder head and in the radiator core. Reverse flushin' with a cleanin' compound will take out the worst of it, but sometimes you have to take off the head and scrape it out with wires.

"And of course a system has to be tight. You have to inspect the hose and check the water-pump shaft for worn bearings and for end play. If you leave a car stand overnight, you can usually spot the leaks from the pools of water it leaves on the floor. If the leak is smaller, you can some-

times tell it from the rust spots or anti-freeze stains at the joints and around the hose connections.

"Internal leaks, like the one we found in the gasket on this car, is tougher. Bigger internal leaks is easier to find. Most of the time, they'll leak enough water to make the oil level rise. You can spot smaller ones by takin' off the water-pump couplin' and the top hose and thermostat. When you replace the water outlet on the cylinder head and fill the block and radiator, you can see air bubbles in the water outlet as you gun the engine. You can pour a little oil in the carburetor air intake, if you want. That'll get smoke in the bubbles, so they're easier to see."

Although he was following Pop's words attentively, Tommy kept glancing at the door of the shop office.

"Worried about makin' that customer wait?" he asked. Tommy nodded. "He'll be out when he gets mad enough," said Pop. "There's one more thing you got to remember about coolin' system service. That's foamin'. It's due to air bein' sucked into the system. The air may be gettin' in at a number of places—at the water pump, the radiator hose, or at the head gasket like it did on this job. You can usually tell whether it's an air leak or not by watchin' the filler neck of the radiator while the engine is runnin'. When it's a compression leak, the bubbles don't show up with the engine idlin', so you have to run it in high gear and slip the clutch with the brakes on."

Pop brought out his watch. "I guess we kept taht gorilla waitin' long enough. Put a new head gasket on this crate and button it up."

"He's probably steamin' himself by this time," said Tommy.

"I hope so. And would I like to give him a new gasket," said Pop. "But I'd spell it with a 'c'!"

**CLEAN  
ENGINES  
LAST  
LONGER**



Smooth running long lasting power requires clean engines—engines free of sludge, gum and acid which accumulate in the lubricating system and cause the motor to become sluggish and unresponsive. Car and truck manufacturers insist that these petroleum residues are a major factor in destroying engines.

**LOOSITE** and **SILOO**, swift-working solvents of petroleum residues act quickly and safely to eliminate sludge, gum and acid. **LOOSITE** cleans out the

engine—then **SILOO** added to fresh crankcase oil keeps it clean. A simple, harmless, economical method of obtaining maximum performance and longer life.

Nationally advertised **LOOSITE** and **SILOO** are products of fifteen years' standing. They are demanded by motorists everywhere. See that your customers get this motor protection.

**LOOSITE** and **SILOO** can be used safely and effectively with any type oil and filter.

**PETROLEUM SOLVENTS CORPORATION**  
331 Madison Avenue, New York 17



"I don't care what you understand W.P.B. to have announced. All restrictions are not off!"



## WHEN YOU SELL EXIDES—YOU'RE IN THE BATTERY BUSINESS TO STAY

Build your battery business on a sound foundation—sell Exides. Exide is ready to help you . . . ready to give you the benefit of the vast experience that makes Exide outstanding in fundamental

knowledge of battery merchandising

—from servicing to sales at a profit.

Keep up with modern battery merchandising. Have your name placed on our mailing list. Write us today.



THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32

Exide Batteries of Canada, Limited, Toronto

## Servicing Wipers

(Continued from page 38)

If the motor is in the parked position the button will be depressed and the test cannot be made.

Connect a negative wire from a test battery to the black wire and the positive wire to the motor case. The motor should run at full speed. If the motor does not run, the field circuit may be open, the armature circuit may be open, the armature or gears may be jammed, or the brushes may be stuck or badly worn.

The parking position of the blades

may be adjusted by loosening screw "E," Fig. 5, and turning the parking switch bracket as needed. After this adjustment be sure to tighten the lock screw.

Electrical test specifications are as follows:

Field current draw 2.45 to 2.85 amps.

Amperage draw, running light, low speed, 4.5 amps. at 5.8 volts. High speed, 4 amps. at 5.8 volts.

Motor must start under load at 4.0 volts with the switch in the high-speed position.

## Socony-Vacuum Announces Postwar Station Designs

An improved type service station introduced by Socony-Vacuum Oil Company, Inc., combines new features, such as the absence of walls between lubricitorium and salesroom, better lighting and greater organization of equipment, designed to facilitate the work of the attendant and make the visit of the customer a pleasant one.

Located at Cedar Lane and River Road, Teaneck, N. J., the first such station has been put into operation by the company on an experimental basis, so that when the idea has been thoroughly demonstrated it can eventually be incorporated in the other Socony-Vacuum service stations throughout the country.

With emphasis on cleanliness, the interior is painted white, which, in combination with modern illumination and large window space, provides improved lighting for the man at work.

The sales space is one-third larger than formerly through the absence of a wall between this section and the lubricitorium, so that the interior is actually one large room. The increased space permits better displays of merchandise. The new arrangement also offers more convenience for the customer who can inspect the merchandise or relax in comfort while his car is in the lubricitorium.

A great deal of thought has been devoted to the proper and handy arrangement of tools and equipment needed to conduct the work more efficiently.

One compact container, for instance, holds gear oil and chassis grease, as well as air and water tubes, so that work can be performed on two cars at the same time without either attendant having to leave the vehicle he is working on.

### LESS CLEANING TIME—MORE PROFIT TIME



Pressure pump for spray-cleaning larger parts

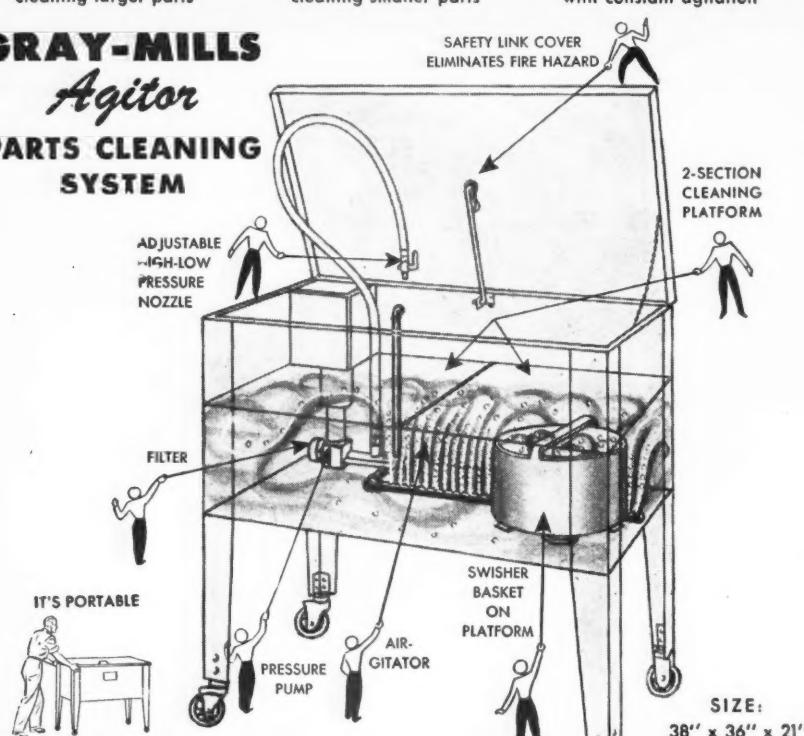
Swisher basket for quick-cleaning smaller parts

Air-agitator for soak cleaning with constant agitation

### GRAY-MILLS

*Agitor*

### PARTS CLEANING SYSTEM



With an Agitor Parts Cleaning System, skilled mechanics clean parts faster and better—have more time for productive work. This safe, simple, low cost parts cleaner uses cold solvent—quickly removes oil, grease and grime from small

and large parts. It works 3 ways: 1—Soak cleaning with air agitation; 2—Small parts swished clean by hand "Swisher" Basket; 3—Spray cleaning with hose and powerful pump.

Write for literature.

**GRAY-MILLS CO.**

1943 Ridge Ave., Evanston, Illinois

**PARTS CLEANING SYSTEM**

Agitene Cleaning Solvents

"Cars are always honking at me, so I'm going to give them a dose of their own medicine."

*Murphy Townsend*



## AND AGAIN Snap-on Tools ARE THE STANDOUT CHOICE FOR EFFICIENT MAINTENANCE

**I**N Bus Transportation's 1945 Maintenance Efficiency Competition, 15 bus operating companies win the coveted ME pennant, "for outstanding maintenance performance in the face of continuing handicaps created by wartime operation".

Again Snap-on tools are the overshadowing choice of the contestants . . . with Snap-ons ranking 8-to-1 over other makes of service tools in the preference of the winning companies.

Since the inauguration of Bus Transportation's awards in 1930, Snap-on tools have been the almost unanimous choice of winners. In every field of transportation Snap-ons hold equal rec-

ognition as *dependable aids to efficient maintenance*. Write for catalog of the complete line of more than 3,000 Snap-on tools.

**SNAP-ON TOOLS CORPORATION**  
8036-K 28th AVENUE KENOSHA, WISCONSIN





## PERMITE Seal Pack WATER PUMPS FOR ALL POPULAR MAKES OF CARS AND TRUCKS

Permite Water Pumps are especially designed to prevent leaks and give long, trouble-free service. The bellows seal is molded of the finest synthetic rubber, selected for its extra resistance to all types of anti-freezes, oil and alkalis in water.

The self-lubricating seal washer, a distinctive Permite feature, also helps to provide positive seal, and it eliminates all frictional squealing. A plated, steel compression spring in the bellows seal holds the seal washer in uniform contact with the seal seat of the pump housing under all operating conditions.

The complete line of Permite Seal-Pack Water Pumps, Water Pump Repair Kits and other Replacement Parts is available through a near-by Permite Jobber. If you do not know his name, please write us.

### *The* **PERMITE Line**

- ALUMINUM ALLOY PISTONS
- SEMI-STEEL PISTONS
- PISTON PINS
- VALVES
- VALVE GUIDES
- VALVE STEM KEYS
- VALVE SPRINGS
- BOLTS
- BOLT SETS
- TIE-ROD ENDS
- BUSHINGS
- WATER PUMPS
- WATER PUMP REPAIR KITS
- WATER PUMP PARTS
- MUFFLERS AND CLAMPS
- TAIL PIPES
- CYLINDER SLEEVES
- WET SLEEVE ASSEMBLIES

**ALUMINUM INDUSTRIES, Inc. - - CINCINNATI 25, OHIO**



*There's a Permite Jobber  
Near You!*



• 55 Warehouse Stocks support the coast-to-coast network of Permite Jobbers.

## Gigantic Jobber

(Continued from page 31)

service trade crystallized, they were able to determine with reasonable accuracy just what should be included in their inventory.

In 1923 the partners took the first step in the expansion policy that was to lead to the acquisition of warehouses up and down the Mississippi valley. In that year they bought the St. Louis warehouse, which had originally been very much like their Indianapolis operation. Then in 1925 they bought out another organization in Dallas, with branches in Ft. Worth, Houston and San Antonio. Louisville was added in 1926 and Kansas City in 1928. The largest expansion came in 1929, when the Standard Unit Parts Company of Chicago and the Automotive Parts Corporation of Detroit were added. The Chicago warehouse included three branches in Milwaukee, St. Paul and Minneapolis, and Detroit had branches in Grand Rapids and Toledo.

Meanwhile, both partners had been active in the formation and development of the National Automotive Parts Association, in which the Boozer-Test warehouses have been members from the very start.

While all of the warehouses and branch warehouses operate under the direction of Boozer-Test Management Service, and while Indianapolis is the heart of the organization, each unit and its branches is a separate company, operated independently and standing on its own feet. There is a certain amount of coordination between the units, of course, because of the centralized management. This coordination between the various Boozer-Test units is further developed through a central field organization headed by Jack Heffelfinger, general sales manager; John Baldwin, stock control manager, and M. A. Hansen, general auditor.

Although some four hundred NAPA Jobbers already are served by the Boozer-Test units of the NAPA system, the partners feel that the automotive after-market still offers the same, and perhaps greater, opportunity for development that has existed since World War I, so long as further development is based on sound economics.

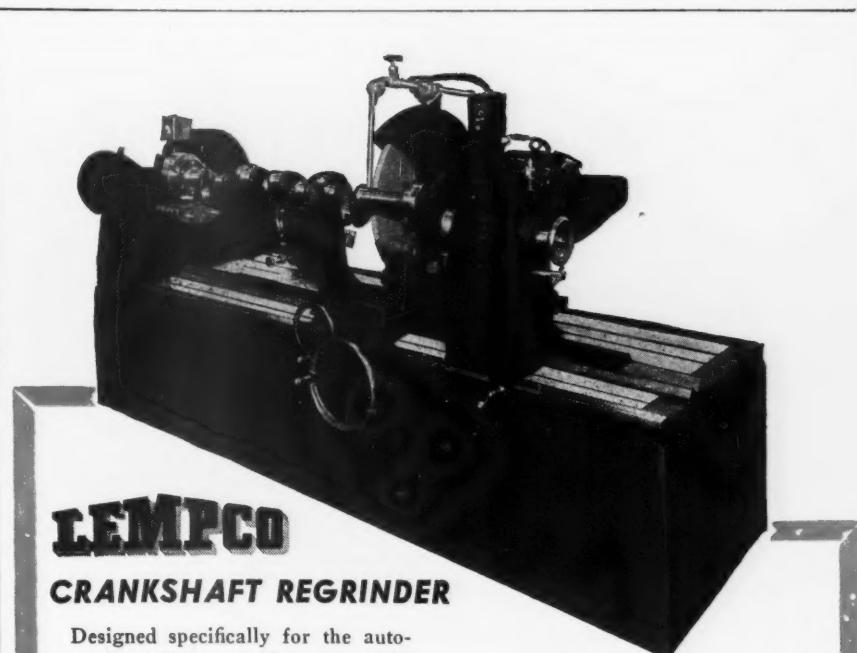
On the theory that ready availability and prompt service are key considerations in the distribution of replacement parts, there are many jobbing centers in the territories served by the Boozer-Test NAPA Warehouses which are still not covered, and into which they plan to expand their operations as soon as the supply situation permits without interfering with their service to jobbers already established. Beyond this, they feel that much can be done by increasing the efficiency of their ser-

vice, and better organization of selling effort in every territory. To this end, plans are already on paper for the expansion of warehouse facilities and an intensification of merchandising effort to gain greater sales per vehicle in every jobbing area covered. They are firmly convinced that the horse-and-buggy days are gone, in distribution as well as in transportation, and that efficient automotive jobber distribution is here to stay.

## Sales Staff Appointment

Pennsylvania Rubber Co., Jeanette, Pa., have announced the appointment of H. B. Robertson to their sales organization.

Mr. Robertson comes to Pennsylvania Rubber Co. after seventeen years with the B. F. Goodrich Co. where he served in sales and sales service activities in the Akron, Pittsburgh, Clarksburg and Atlanta offices.



**LEMPCO**  
**CRANKSHAFT REGRINDER**

Designed specifically for the automotive jobbing machine shop. Built to precision machine tool standards. Steel ways, hand-scraped; direct-reading dial indicator provides absolutely accurate taper adjustment. All models have adjustable wheel head bearings; crossfeed calibrated to .0005"; safety switch cut-out. Many other exclusive features. For fast, profitable crankshaft regrinding.

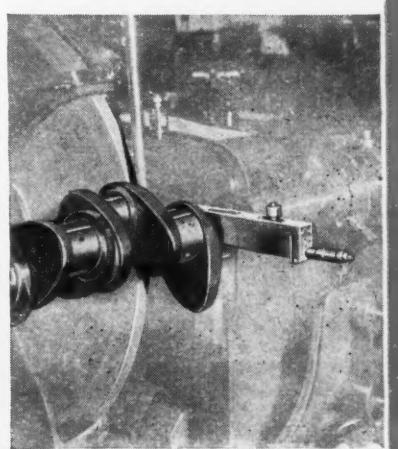
★ 4 SIZES: 22" x 108", 22" x 84"  
22" x 72", 18" x 48"

★ CEILING-PRICED  
FROM \$5,060 to \$8,110

★ PRACTICAL CREDIT TERMS

★ GOOD DELIVERY

WRITE FOR CATALOG



**LEMPCO**

5727 DUNHAM ROAD • BEDFORD, OHIO

NOVEMBER, 1945

When writing to advertisers please mention Motor Age

75

## Steady Profits

(Continued from page 37)

ager's office is located immediately beyond lubrication department from which point of vantage, he can control all jobs most efficiently, directing other important service to the proper departments, after inspections and recommendations emanate from the greasing service.

(2-B) Location: The Hickman building extends through a whole city block, namely, from Meridian Street, one of Indianapolis' leading traffic lanes, to Illinois Street. The management puts emphasis on the lubrication

of cars as a peace-time must. But from here on the next major items include motor-tune up and complete carburetor service, obviously to save gasoline and improve performance. Equally important, the company sells brake service as a vital safety factor and to make as sure as humanly possible, that the owners' cars can be not wrecked needlessly, when proper brake adjustments cost so little.

Front end adjustments are never neglected. Service department employees point out to car owners that wheel alignment, wheel balancing and correct steering are the principle factors in saving their tires for continued operation. Each department

has its full quota of tools and labor. Customers where new tires are seated, as conditions show on the needed, new valves installed or resuming analyzing equipment, and motor overhauling is recommended to analyzers. Clutch service is another important phase here, due to the increasing age of cars, and piling up of miles on miles.

The largest single job Hickman Oldsmobile turned out was a complete rebuilding of a wreck, costing \$1400, done only to furnish transportation for an owner in vital war work.

The company policy is one of strict preventive maintenance, and all their steady customers are frequently reminded that it costs LESS to lubricate often, have minor tune-ups and adjustments made than to pay for wreck-jobs, or be obliged to junk a car on the spot due to sheer neglect.

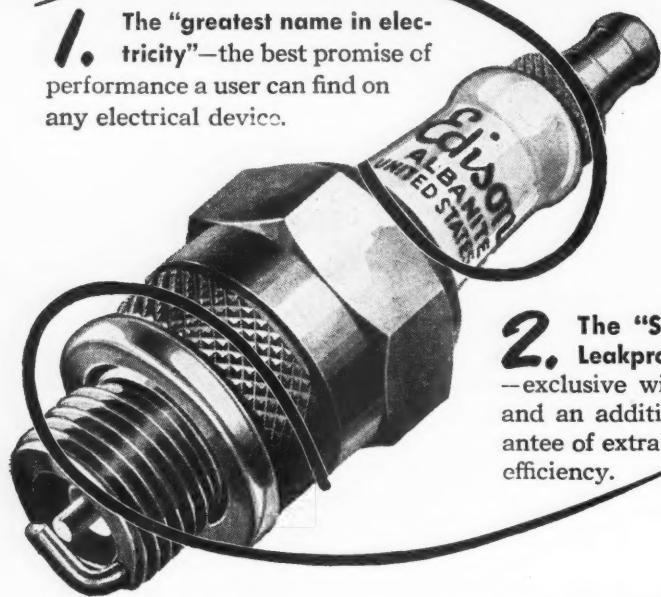
(3) Another method that speeds up completion of service jobs and thus makes more customers happy, is the check up on progress of major repairs. Suppose a customer stops in or telephones asking when he can get his car. Through a loud speaker system, the service manager calls the mechanic. He can report that the job he has been working on has been finished, and that the balance will be finished at a given time, easily estimated. The customer is then advised accordingly and knows when his car will be ready for him.

"But that is not all," Mr. Cunningham added. "Just as soon as one job is finished, the mechanic reports it to the service manager. The car is taken out, and parked in the waiting room, and another job moves in. This eliminates a lot of waste of time that would otherwise result. It is just another phase of the "mass production" methods which the service industry will employ more and more.

(Continued on page 78)

## 2 TALKING POINTS MAKE EDISONS EASIER TO SELL

1. The "greatest name in electricity"—the best promise of performance a user can find on any electrical device.



2. The "SPUN-ON" Leakproof Gasket—exclusive with Edison and an additional guarantee of extra efficiency.

Edison's policy of controlled independent distribution assures you a steady profit and steady repeat business on a spark plug that really gives you something to talk about.

(Write for Edison Franchise Details)

# Edison

## SPARK PLUGS

Edison-Splitdorf Corporation, West Orange, N. J.



BACKED BY THE  
GREATEST NAME  
IN ELECTRICITY

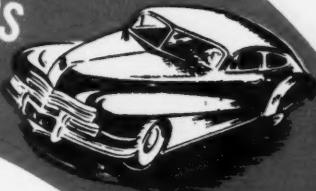


"Thank you, sonny, but I can carry the first four myself!"

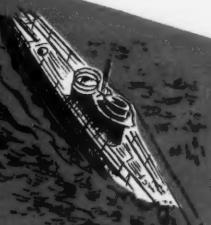
*from jeeps*



*to joy rides*



*crash dives*



*to cruises*



*patrols*



*to picnics*



As motorized invasion gives way to motorized pleasure; and beachheads are established for bathing instead of bombing, the production lines of E. A. keep pace with these very welcome changes. Instead of safety equipment for fighters, once again it's heaters and lamps and horns for business and pleasure vehicles.

Dealers who have learned to expect E. A. leadership will not be disappointed in product or delivery. Write for information on the E. A. post-war line now in production.

**E. A. Laboratories, Inc., Brooklyn, N. Y.**

**E. A.  
PROTECTS  
THEM**

**MAKERS OF AUTOMOTIVE, AVIATION, BICYCLE AND MARINE APPLIANCES**

## Steady Profits

(Continued from page 76)

as time goes on," Cunningham declared.

Inspections of various parts when a car is lubricated, are important sales-building factors, it is explained. When a tire shows uneven wear, or is ready for a recap or replacement, the owner is promptly advised. If he so desires, he can come in himself to order the replacement, or the extra service needed, or he can authorize it over the phone. And when wheel

alignment is needed, the front bearings are inspected. Without this careful attention over 90% of the bearings would be neglected. When the "okay" is received from the customer, the job goes ahead. The loud speaker incidentally check-ups on progress of work helps the company keeps its promises to customers. Keeping promises is good will builder Number One.

Another good will builder in a city like Indianapolis, is privilege of the customer getting his car at any time. The shop is open night and day, (although the shop does not operate at

night) and customer can come in, get his car night or day.

Cleanliness is a definite part of the service program. Although the manpower shortage is a handicap in this it has been helped measurably by the company's policy of supplying white metal cabinets for tools at every service man's station—besides, nothing is lost, no time lost hunting for tools. The hinged doors are handy, and add to cleanliness within the service departments.

Another part of their policy is to follow up all customers with rigid promptness. This is facilitated by the 30, 60 and 90-day card system mounted on the wall in the office of Roy Hickman who is president of the firm. The follow up system is operated by his secretary, Miss Dorothy Mills. The company gives much credit to the success of their program in building up more than 1300 steady service customers, to this follow-up system.

Briefly summarized, Mr. Cunningham went on to state that just as complete automotive service was a leading factor in the company's progress in selling new and used cars, it will be maintained on an even larger scale during the post-war period. Through service, more cars are sold which in turn builds service and parts sales. Without the service department, the company could not have survived the war-time crisis of nothing else to sell. The service department has paid its way, plus a reasonable profit.

## MEWA Conference Space Oversubscribed in 10 Days

The Motor and Equipment Wholesalers Association announced here today that all available conference booth space at the association's regional re-conversion conferences at Chicago, Nov. 6, 7 and 8, and at New York, Dec. 3, 4 and 5 had been sold out in the record time of ten days from mailing of contract and reservation forms.

"This result," according to the association, "is the best possible evidence that manufacturers welcome these meetings for the opportunity they give them to discuss post-war plans and related matters with wholesalers." It is also said that wholesalers are evidencing wide-spread interest in the M.E.W.A. Conferences.

The Chicago conference convened at the Stevens Hotel with open area conference booths in the exhibition hall; and the New York conference will take place at the New Yorker Hotel with open area conference booths in Manhattan Center.

The M.E.W.A. also announces it is endeavoring to secure additional space at New York in order to take care of demands for space in excess of that now available.



## to give you MORE AIR PER DOLLAR

"Built better by Kellogg-American" means MORE COMPRESSED AIR PER DOLLAR. It's simple arithmetic. How much compressed air the compressor actually delivers—not the displacement—tells the story in dollars and cents. Actual air delivered to the tank (compressed air) is always less than displacement. Therefore, the actual compressed air delivered is the true rating of the capacity of a compressor—the rating you should know before you buy. "Built better by Kellogg-American" means more cubic feet of air per kilowatt hour. Volumetric efficiency is high. Operating costs are low. Kellogg-American delivers more compressed air per dollar.

AMERICAN  
**Brake Shoe**  
COMPANY

KELLOGG DIVISION

ROCHESTER 9, N.Y. • LOS ANGELES 6, CALIF.

# THIS VERDICT IS RENDERED ON YOUR INABILITY TO STOP



He didn't know how to read his speedometer!

It is really very simple. Whether a truck driver, salesman, teen-age or week-end motorist it should have been learned in school.

Just multiply speedometer reading by  $1\frac{1}{2}$ .

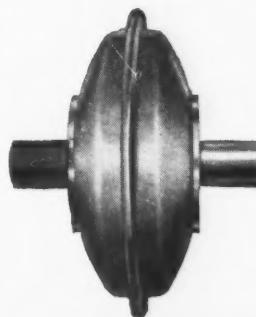
$35 \text{ M.P.H.} \times 1\frac{1}{2} = 53$  travel feet per second

$50 \text{ M.P.H.} \times 1\frac{1}{2} = 75$  travel feet per second

That's how to read your speedometer because it is your travel distance in feet per second.

Reaction, fatigue, and leg pressure all decrease your ability to stop safely . . . especially at higher speeds.

VACDRAULIC MODEL 180  
For Master Cylinders up to  $1\frac{1}{4}$ " diameter



You travel fast — you must stop quickly.

When you add Vacdraulic Power Braking to the hydraulic system of any car or truck it gives that feather touch, instant eye-to-pedal-to-brake action and that extra margin of safety essential to driving in congested traffic or over highways.

Vacdraulic accomplishes power braking force without action lag, and rods or links to get out of adjustment.

See your Vacdraulic Distributor or write us for details.

VACDRAULIC MODEL 240  
For Master Cylinders  $1\frac{1}{4}$ " and  $1\frac{1}{2}$ " diameter

# VACDRAULIC

KELSEY-HAYES WHEEL CO., DETROIT 32, MICH.

Sold to Automotive Distributors by

EMPIRE ELECTRIC BRAKE CO., Newark 7, N. J.

VACDRAULIC is a Trade Mark of Empire Electric Brake Company



## Lube Jobs

(Continued from page 40)

buy only a lube job," says Ketcham. But the others feel that since their cars are tied up anyway they might just as well have other needed repair work attended to while the car is out of service.

The lube rack is a real leader in our business. Sometimes we have let our lube jobs fall off while we concentrated on something else, and each time we have felt the difference in our shop totals. You don't lose much heavy work when you lose lube jobs,

but you really lose the light stuff which is highly profitable when customers go elsewhere for oil and grease!"

Greenlease-O'Neill's peacetime top monthly volume was \$9,630 in 1941, for customer labor sales only: no parts. In 1942, the top month (with Cadillac now under the same roof) was \$15,544. In 1943 the top month was \$17,532; in 1944 it was \$20,253; and in 1945 the top so far has been \$23,140 when 1700 cars entered the doors for service each month. Obviously, not much effort need be expended in selling new business right now.

A monthly pamphlet called the

"Tooter," filled with jokes and brief sales message reminders, is used as the only direct mail effort. But Greenlease-O'Neill is not forgetting the day when business again will have to be sought in peacetime competition. Their belief is that service of highest quality is the best insurance against losing much of the present flood of business. To maintain this service, the firm's service staff has number one priority.

Eighteen mechanics are on Ketcham's service staff. Each one is an expert mechanic: there are no helpers. They are virtually the same men who have been there since pre-war days—as many as the draft boards allowed to remain to handle the large volume of "essential" repairs. In addition, there are four metal men, three painters, three lubrication men, two polishers and one washboy.

"Every productive worker is on a percentage basis," said Ketcham. "I wouldn't give a nickel for productive men on a flat salary. This way they make more money and do more work. No one makes a dime until he does a job. And our dispatcher system assures plenty of work when it is needed."

The dispatcher at Greenlease-O'Neill occupies a glass-enclosed watchtower above one end of the repair floor. He is connected by "talk-back" speakers with each service salesman's desk. Below his window is a chart which indicates, through red, yellow and green lights, the work-status of each department.

When a car pulls into the service entrance, it is met by one of the service salesmen—friendly, white-clad men who are ably qualified to analyze automobile troubles and sell service to the motorist. When the repair ticket is written up, the hard copy is placed in the car seat, and other copies are sent by overhead wire carrier to the dispatcher. Then, when a man completes a job, he simply asks the dispatcher for more work and is promptly assigned to a waiting automobile.

More than fifty per cent of Greenlease-O'Neill's work is done on appointment. All major repair work is handled in this manner. With appointments scheduled for days ahead, the dispatcher (and the workers) can rely upon a steady flow of jobs. The appointment system also permits an early morning start without having to wait for "drop-in" business. The schedule is rather elastic in order to permit handling as much drop-in business as possible.

## Chevrolet Trucks

Production of Chevrolet trucks has begun at the General Motors South Gate plant near Los Angeles, and output is expected to hit 2500 units in November. Production of Buick, Oldsmobile, and Pontiac cars will start there this year.

**CENTRAL Certified Accuracy MICROMETERS**

**FOR IMMEDIATE DELIVERY**

All frames forged of the finest special alloy steel

\*\*\* Available in all sizes from 1" to 6" \*\*\* Also available with ratchet stop, lock nut and 10,000ths graduations \*\*\* A full range of Metric Micrometers \*\*\* Complete sets in leather covered cases—0" to 3", 0" to 4", and 0" to 6".

**WRITE TODAY FOR CATALOG No. 15**

• The entire line of individual Micrometers and complete sets illustrated and fully described. Write today to The Central Tool Co., Auburn, Rhode Island.

**THE CENTRAL TOOL CO.**  
Micrometers of Certified Accuracy  
AUBURN... RHODE ISLAND

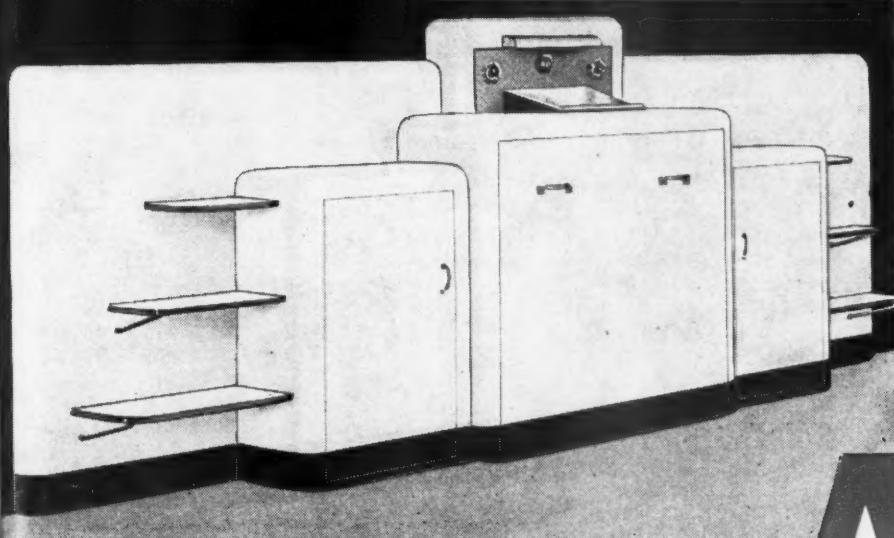


# Flush out more Profit...

**WHEN YOU WINTERIZE CARS!**

Now's the time to "strike a gusher" of extra profits in servicing gears ... with the ARO method of gear case flushing! ARO Visi-Flusher Model 78 does the job with utmost speed and efficiency—and small investment.

Highly practical and unique in design, it provides *two-way flushing* for gear cases, through a single hose. Nozzle design permits operator to direct stream of flushing oil to reach remote parts of the gear case —then remove the dirty oil by suction. Utilizes cleansing properties of flushing oil to fullest possible extent. Equip now! Check your needs with the complete ARO line ... engineered to help you attract and serve bigger volume. See your ARO Jobber. The Aro Equipment Corporation, Bryan, Ohio.



ARO centralized lubrication unit, series 1900

**EQUIP NOW  
WITH...**

# ARO

**LUBRICATING EQUIPMENT**

## Oakite Representatives

### Attend Conferences

Highlighting each of the 1945 Victory Conferences of the Oakite organization, held in New York and Chicago during October, was an exchange of technical information on cleaning, descaling, derusting, degreasing and related operations, applied to peacetime manufacture of civilian products. In addition to the entire field force of more than 140 Oakite technical service representatives, these conferences

were attended by all the laboratory staffs of Oakite Products, Inc.

Discussions covered many low-cost, time-saving techniques for handling such shop and service station cleaning and related operations as steam detergent cleaning of motors and chassis; cleaning radiators and cooling systems; cleaning parts before repair and overhaul; effective methods for keeping floors and pits grease-free; obtaining streak-free surfaces when washing cars, trucks, buses; cleaning and deodorizing bus and truck interiors.

## Automotive Advertisers' Council Surveys Market

Results of the first comprehensive survey of the postwar market for automotive parts, equipment, tools and accessories were disclosed at the fall meeting of the Automotive Advertisers' Council, held at Chicago, October 9, 10 and 11.

The survey, which included data both from leading manufacturers in this field and other reliable sources, forecast a bright future for the year ahead. It also focused attention on problems which confront manufacturers, distributors and dealers in this field. A summary of the results of this survey is scheduled for separate release by the Council.

Other subjects discussed in the round table sessions were "The Post-war Fleet Market" based on a report prepared by G. L. Service, Valvoline Oil Co.; "Salesmen and Distributor Cooperation in Point of Sale Advertising," discussed by George W. Stout, Perfect Circle Co.; "Jobber Clinics," discussed by Walter Kirkpatrick, Wilkening Mfg. Co.; "Industry Advertising Budgets and Trends," discussed by J. D. Hershey, Dayton Rubber Manufacturing Co.; "Trade Paper Relations," discussed by Burt Hotvedt, Blackhawk Manufacturing Co.; "The Aviation Industry as a Potential Postwar Market," discussed by Stuart Phillips, Dole Valve Co.; "Advertising Distribution Practices," discussed by C. H. LeFevre, Sealed Power Corp.; and "Sound Slide Films," discussed by H. M. Wertz, The Toledo Steel Products Co.

R. E. Conley, Hollingshead Corp., Whiz automotive division, was appointed to fill a vacancy in the board of governors.

T. F. Hall, Walker Manufacturing Co. president of the Council, presided at the meeting. Other officers of the Council are: W. A. Kirkpatrick, Wilkening Mfg. Company vice president; C. H. LeFevre, Sealed Power Corp., secretary; George W. Stout, Perfect Circle Co. Treasurer.

## Promotion Announced

Promotion of V. P. Bresan to the post of merchandising director has been announced by L. M. Olson, general sales manager, WHIZ Automotive Division, R. M. Hollingshead Corp., Camden, N. J. Previous to his promotion, Bresan was assistant sales manager of the WHIZ Division.

He joined the Hollingshead organization in 1932, as secretary to W. Stewart Hollingshead, now president of the corporation.

In his new capacity, Bresan will be responsible for all merchandising activities connected with the sale of WHIZ Automotive Products.

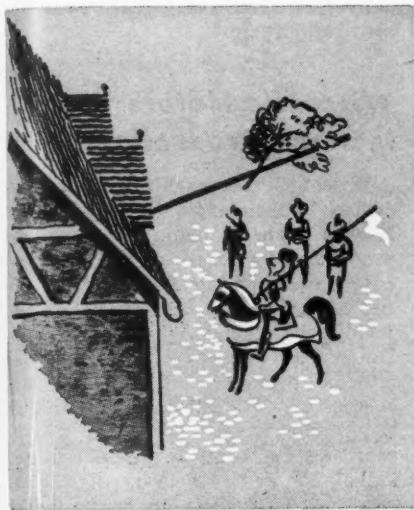
JEWELS OF INDUSTRY

BALLS - BALL BEARINGS - ROLLER BEARINGS

HOOVER

BALL AND BEARING COMPANY, ANN ARBOR, MICHIGAN

# What do these Signs mean?



**The Sign of Hospitality.** The first inns were marked by a green bough which extended from an upper window. Knights and other wanderers were thus advised the householder would extend hospitality.



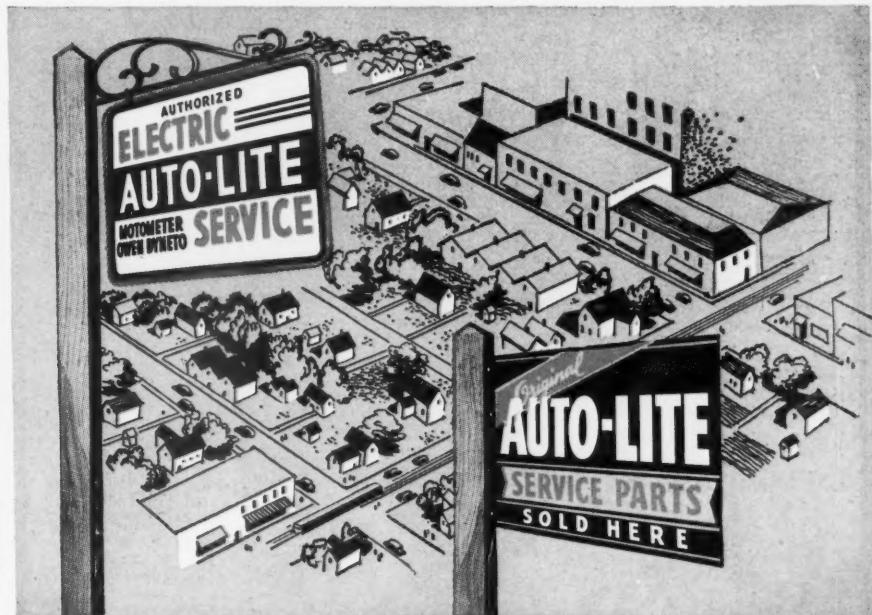
**The Sign of Victory.** The "Thumbs-up" sign, used so widely by the British originated in the Roman Games at the Coliseum. The Emperor, as a reward for a good fight, indicated his favor by extending a raised thumb.



**The Sign of Good Luck.** The four-leaved clover has come to be regarded as an emblem of good luck because it is a rarity. Clover is normally a trifolium though recently a four-leaf variety has been developed.



**The Sign of Plenty.** The cornucopia dates from Roman and Greek mythology. Amalthea was a goat, the nurse of Zeus. The goat's horn was supposed to become filled with whatever its possessor wished, hence, the horn of plenty.



**Two Signs that go Together.** These two Auto-Lite signs mean complete electrical service to the owners of 8,500,000 Auto-Lite equipped cars, trucks and tractors. You can get your share of this profitable business by displaying the Auto-Lite sign and you

get, too, the backing of a world-wide organization that assures you any auxiliary service you need in restoring top performance.

**THE ELECTRIC AUTO-LITE COMPANY**  
Parts and Service Division  
**TOLEDO, 1, OHIO** • **SARNIA, ONT.**

# AUTO-LITE

v Starting v Lighting v Ignition

TUNE IN THE AUTO-LITE RADIO SHOW STARRING DICK HAYMES — SATURDAYS 8:00 P.M. — E.T. ON CBS

NOVEMBER, 1945

When writing to advertisers please mention Motor Age

83

## Ford Motor Co. Opposes O.P.A. Price Structures

Ford Motor Co. opposition to reduction by the O.P.A. of the margin of profit allowed automobile dealers—who are really independent, small business men—was disclosed recently in a letter from J. R. Davis, director of sales and advertising, to approximately 7000 Ford, Mercury and Lincoln dealers.

The letter follows:

"It is possible that in the price structures established by O.P.A. cov-

ering new cars, dealers may be allowed a smaller margin of profit than in the pre-war period. This could be brought about by O.P.A. establishing definite wholesale and retail prices to be charged by the manufacturer.

"We want you to know that we have done everything possible to prevent any reduction in the dealers' margin as we feel that the automobile dealer needs the same discount margin he had previously.

"It should be recognized that automobile dealers generally have a very definite reconversion expense due to

the deterioration of plant facilities, necessitating modernizing and redecorating. Also, there is a general increase in the cost of supplies, wages and general operating expenses. Then too, it will be essential for dealers to increase their expenses in selling parts and labor, to offset the possible decline in shop profits due to new car deliveries. Necessary reserves should also be built up."

## Wisconsin Motors to Increase Production

Wisconsin Motor Corp., majority-owned subsidiary of Continental Motors Corp., is planning to increase production by 50 per cent as soon as new manufacturing and testing facilities are completed, according to H. A. Todd, president of Wisconsin Motors. He said his company has on hand an all-time peak of unfilled orders—in excess of \$17 million, and that a \$500,000 expansion program will be carried out. Postwar production will include four new V-type engines ranging from eight to 33 hp which will augment the two V-type engines in production before the war. Since Continental acquired control in 1943, the plant has been modernized and revamped for large scale production.

## New Packard

(Continued on page 24)

by virtue of the very low spring rate of the coil spring.

3. A very light ring cross section which results in a high degree of flexibility and conformability.

4. Effectiveness, particularly at high speeds, without high unit pressure. Unit pressure is comparable to that of conventional rings without expanders.

While chassis details remain the same as before, one of the major improvements is the adoption of a new model steering gear of the worm-and-triple-tooth roller type. The roller is mounted on a double row of needle bearings while the worm is mounted on two tapered roller bearings. This unit is said to provide unusual steering ease.

A new die-cast radiator grille and lower radiator emblem enhance outward appearance. The new models follow the general lines of the pre-war Clipper model.

## Appointment Announced

The Pennsylvania Rubber Co., Jeannette, Pa., announces the appointment of R. W. Wheeler of Cleveland, as sales representative for the Northern Ohio area. Mr. Wheeler has had extensive experience in the tire recapping field, from the manufacturing, retail and wholesale standpoints.

## A SWELL JOB EVERY TIME



Hygrade Line  
AUTOMOTIVE  
PRODUCTS

### HYGRADE REPLACEMENT PARTS

"Engineered for Old Units"



CARBURETOR AND FUEL PUMP  
PARTS IN CONTAIN-ALL KITS  
SPEEDOMETER CABLE, CASING,  
TIPS, SHAFTING  
FUEL LINES & FITTINGS

HYGRADE PRODUCTS CO., INC. LONG ISLAND CITY 1, N.Y.

Says a regular customer of mine . . .

# "This Hurt Junior More Than It Did Me!"



SAFE HEADLAMPS ARE "CORRECTLY AIMED" HEADLAMPS—CHECK YOUR CUSTOMERS' HEADLAMPS TODAY

Let Safety Share the Ride—Replace with

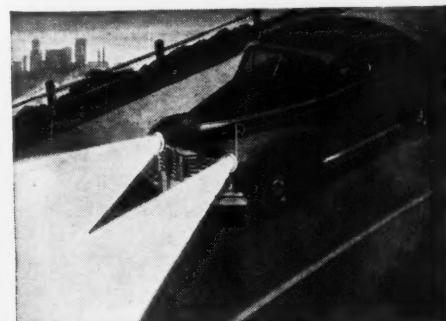
## GUIDE SEALED BEAM HEADLAMP UNITS

**NO DIM-OUT**—They're right . . . they're bright . . . they won't grow dim throughout their long life. Guide Sealed Beam units are sealed against dust, dirt and traffic film to give your customers a "carpet of safety" at night.

**NO BLACK-OUT**—Even if a stone or road mishap cracks the lens, the Guide Sealed Beam unit keeps burning until the damaged unit can be replaced. It does not fail when the "air seal" is broken . . . safeguards your customers "all the way."



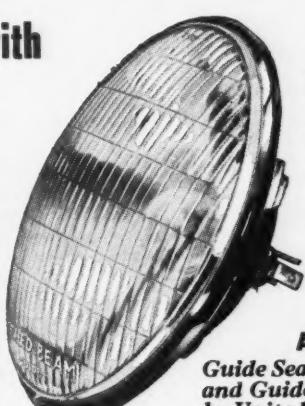
1. It seems he was all set to leave on a rush case one evening . . . the guy's a doctor . . . when he spotted his kid trying out a toy hammer on his Sealed Beam headlamp lens.



2. Well, he dusted off Junior's pants for him, because he thought that the cracked lens meant a long night drive with one headlamp out. But when he switched on the lights, they both worked . . .



3. "How come?" he asked me the next day, so I gave him the low-down. "Because your Sealed Beam unit was a *Guide*, Doc. *Guide* units don't fail when the lens is cracked. They're safer all the way!"



**Guide**  
LAMP

DIVISION OF  
GENERAL MOTORS  
ANDERSON, INDIANA



**GUIDE LAMP  
A UNITED MOTORS LINE**  
*Guide Sealed Beam replacement units and Guide lamp service parts are sold by United Motors Service distributors.*

## Legally Speaking

A lawyer's interpretation of federal and local court decisions of interest to repairmen and car dealers

### Injured Employee

Where an employee is hurt in the course of his work and refuses to submit to an operation to improve his condition, does he thereby forfeit his right to additional workmen's compensation?

In Massachusetts, recently, a workman suffered an injury to his finger and was receiving both general com-

pensation and special compensation for the loss of the use of the fingers. It was urged that his condition could be improved by an operation but he refused to be operated upon.

The court was then asked to decide whether he forfeited his right to further compensation by his refusal. After hearing the medical testimony, the court decided that since it was doubtful whether substantial benefit

would result from the operation, the man was not unreasonable in refusing to be operated upon. He therefore continued to draw further compensation. (*Massachusetts Supreme Judicial Court in re Burns*).

### Not Made in the United States

Where merchandise imported from another country is sold as "made in the United States," is such representation illegal on the ground that it constitutes unfair competition? The Federal Trade Commission thought so, and issued a cease and desist order against a seller who was doing it. The Commission will not tolerate what it calls "misrepresentation of origin" of merchandise. (*Federal Trade Commission, No. 3117*).

### Balance of Account

Have you ever received from a debtor a check for an amount less than he owed you, but marked with a notation like "in full settlement" or "full balance of account?" If you did, he was probably hoping you would cash the check without realizing the significance of the notation. Then if you tried to collect the balance, he would show you that you had accepted his check in full settlement.

That's a rather frequent trick, but not such a clever one as it seems. In order to make it stick, the debtor has to show that there was what the law calls "accord and satisfaction." Usually, there must be some dispute between the parties as to the true amount owing, an agreement between them as to the amount which will be paid and accepted in full settlement, and the payment of that amount in pursuance of the agreement.

Recently a Vermont business house sued a debtor for an unpaid balance. The debtor produced a check which had been endorsed and cashed by the business house. This check bore on the upper left hand corner the notation "balance of account to date per statement attached." The debtor said that he mailed this check to the business firm with a letter and a statement of the account according to the amounts he admitted owing. The bookkeeper for the business house testified that she had no recollection of receiving any letter or statement enclosed with the check. There was also some question raised as to whether the notation was on the check when received.

The court favored the debtor's side of the case and found in his favor. On appeal by the business house, however, the upper court took a somewhat different view, saying:

"The burden of establishing an accord and satisfaction was upon the debtor. If this notation was put upon (Continued on page 88)

**"CUSHION RIDE"**  
TRADE MARK REG.

# RUBBER SHACKLES

FOR FORD - MERCURY CHEV. & PLYMOUTH

THIS SHACKLE  
REPLACES THIS

Other Fast Moving Items Ready for Delivery

- WATER PUMPS AND KITS
- SOLENOID STARTER UNIT
- KING BOLT SETS
- SHOCK LINKS
- SPECIAL SERVICE SWITCHES, ETC.

AMKO Quality AUTOMOTIVE REPAIRMENTS

**AUTOMOTIVE MAN'F'G. CO., INC.**  
1050 W. HUBBARD ST. CHICAGO 22, ILL.



AC

# FUEL PUMPS

**SEND FOR AN AC PUMP SHOP MANUAL**

Field Service Department, AC Spark Plug Division, G. M. Corp.  
910 Union Industrial Building, Flint, 3, Michigan

Gentlemen: Please send at once, no charge, the AC Shop

Manuals checked:

- How to Service Spark Plugs       HOW TO SERVICE FUEL PUMPS
- How to Service Spark Plug Cleaner       How to Service Air Cleaners
- How to Service Oil Filters       How to Service Speedometers
- How to Service Ammeters and other Instruments      **MA-11**

NAME \_\_\_\_\_

FIRM \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

LET'S FINISH THE JOB—BUY VICTORY BONDS

## Legally Speaking

(Continued from page 86)

the check after its return from the bank, it was an alteration not apparent upon the face of the check. When the debtor introduced in court the check with the notation upon it and the endorsement of the plaintiff business house and evidence tending to show that he had mailed with the check the letter and statement of account, he had made out a case of accord and satisfaction and needed to go no further until the business firm

brought forward opposing evidence.

"But when the business firm introduced evidence tending to show that the notation was not upon the check when it was received and that the letter and statement of account were not received, the burden then remained on the debtor to show that the notation was then upon the check and that the business firm received the letter and statement."

In other words, the business house does not have to prove that it did not accept the check in full settlement, but according to this decision the debtor must prove that the check

was accepted for "full balance of account." In all cases of satisfaction and accord or settlement of account for less than the amount claimed, there must always have been a dispute between the parties as to the amount due followed by an agreement by the creditor to accept in full settlement the amount which the debtor is willing to pay.

It is advisable not to cash a check with one of those tricky notations unless you are willing to accept the amount of the check for the full obligation. The cashing of such a check at least gives a debtor plausible ground for arguing that it was accepted in full satisfaction of his account. (*Hammond's Inc. vs. Flanders*, 191 Atlantic Reporter, 925).

A NEW FRIEND  
IN A  
NEW DISPLAY  
**Schrader**  
#1945  
VALVE CAP

JOINS THE FAMOUS STANDARD SCHRADER LINE

COMBINES ALL FEATURES

LONG SKIRT—SCREW DRIVER TOP—  
RIB REINFORCED—with all-purpose, heat-resisting rubber in the standard doubly reinforced sealing washer. Guaranteed air-tight up to 250 pounds pressure. Keeps air in, dirt out at the valve mouth. Helps make tires last longer.

CUSTOMER APPEAL

Place this eye-catching, 4-color display where your customers can see it. Tell them a few cents will protect many dollars' worth of rubber.

STANDARD SCHRADER CAPS

are nationally advertised to your customers "Available at your dealer's in the familiar red, white and blue package of five".

Be sure you get yours as soon as possible. Get in touch with your regular source of supply today. Have #1945 Caps added to your order for Schrader products.

A. SCHRADER'S SON, Div. of Scovill Manufacturing Company, Inc., BROOKLYN 17, NEW YORK



"They finished their job—let's finish ours!"

With this stirring slogan, the Eighth War Loan Drive begins—the Victory Loan—from October 29 through December 8th. Various emblems for each trade are being produced. The illustration above shows the type to be found in stations and shops.

Billions will be needed to bring men home from various war theatres—rehabilitate our wounded—to maintain American Armies of occupation—the mustering out of discharged service men. This is the last war bond drive. Do your part!

## Borg-Warner's Annual Report Merits "Oscar"

Borg-Warner Corporation's annual report to stockholders has been adjudged by "Financial World Magazine" as one of the two best issued by companies in the automotive equipment field this year.

C. S. Davis, president, was presented with an "Industry Oscar" bronze statuette emblematic of this honor at a meeting of leaders of American industry at New York, recently, under the auspices of "Financial World Magazine."

# RESEARCH

Months and years before a new Toledo product appears on the market, our laboratories conduct extensive research—both as to the potential market for the product and in the perfecting of the item itself. Toledo's long-range research is for better material, better methods and better products, all of which goes hand-in-hand with better engineering. Many advances have been made during the war which will, in the near future, be reflected in the quality and design of all Toledo products. For example, great strides have been made in high alloy heat-resisting materials and their processing. . . . This is just a part of our way of doing business — of continually assuring America's Men Who Know Motors that Toledo automotive parts must always be right.

## RESEARCH • ENGINEERING TESTING • MANUFACTURING • AND IN ACTUAL USE

*There are no Finer Automotive Parts in All  
the World Than*

*Genuine TOLEDO*



*The TOLEDO*

STEEL PRODUCTS COMPANY • TOLEDO, OHIO, U. S. A.  
SINCE 1906

*Makers of Fine Automotive and Aircraft Parts*

## Pontiac Production on "All-We-Can-Make" Basis

Production has been started at Pontiac Motor Division of General Motors, it was reported by H. J. Klingler, general manager, and will be continued on an "all-we-can-make" basis without regard to previously set quotas.

Streamliner sedans are the first new models to come down the Pontiac lines since production was suspended on February 20, 1942. Station wagons

and four-door sedans are next on the Pontiac production program.

"We have removed all self-imposed quotas from our production in order to get badly needed cars to the public as fast as possible," Mr. Klingler said.

As the Pontiac production lines began to move, construction of new buildings and expansion of present facilities continued simultaneously. The company has a goal of 500,000 cars in the first complete production year with employment of 16,000 persons.

## Firebaugh Special Makes Debut on West Coast

The first preview of the Firebaugh Special was staged at the Pan Pacific Auditorium, Los Angeles, during the Southern California Industrial Exposition shown September 1 through September 9.

This 1946 three-wheeled truck, handles half-ton pay loads of 23 cubic feet and is capable of traveling 35 miles per hour. Gasoline consumption of 60 miles per gallon is claimed and fluid drive makes it simple to operate. This motor is so designed as to use standard automobile parts, which may be easily replaced from stocks of Ford, Chevrolet and Bendix dealers.

**SELL THE WINTER-GRADE OIL  
THAT WORKS BETTER TWO WAYS**

**AMALIE**  
**SUB-ZERO**  
**PENNSYLVANIA**  
**MOTOR OIL**



**FLOWS FREELY WHEN IT'S COLD...  
YET CLINGS TO METAL—COLD OR WARM**

AMALIE Sub-Zero Pennsylvania Motor Oil is 20% oilier. It not only flows freely at low temperatures, but its extra oiliness causes it to cling to pistons and cylinder walls instead of draining off into the crankcase when the engine is not running.

You profit by creating and holding satisfied customers when you recommend AMALIE Sub-Zero for easy starting and smooth engine operation — all winter long. And for all vital lubrication points, remember AMALIE winter-grade lubricants.

Ask your AMALIE Distributor, or write Dept. O11.



**AMALIE DIVISION**

L. SONNEBORN SONS, INC.

88 Lexington Avenue • New York 16, N. Y.

REFINERIES: Petrolia and Franklin, Pa. • PLANT: Nutley, N. J.

In the Southwest: Sonneborn Bros., Dallas 1, Texas



There are no gears to shift and all speeds are governed by a foot throttle.

Powered by a two-cylinder, four cycle, air cooled motor, this machine develops eight and one-half horse power. The engine has dual carburation, valves in head, Timken front and rear main bearings, cast iron pistons, cast iron cylinders and bronze alloy connecting rods.

The Firebaugh Special weighs approximately 600 pounds, is 92 inches long, 50 inches wide, 66 inch wheel base and a turning radius of 14 feet.

This small truck is especially adapted to pickups by garages, markets, drug stores, farms, and inter-plant transportation.



**"Hold on there! Have you a hunting license?"**



**WHAD'YA MEAN  
A SELF-CLEANING  
MUFFLER?**



## **ASK YOUR PRATT JOBBER . . .**

**He'll explain . . .**

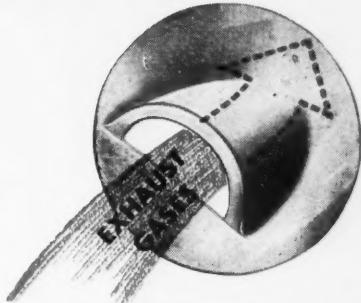
"Can't clog" SCOOP ACTION, insuring smoother, quieter, more efficient motor performance. There are many other PRATT features he'll tell you about, including stronger, longer wearing shells of cold rolled steel, reinforced from end to end by continuous, interlocked 4-ply spiral ribs.

More selling features, greater *eye* and *buy* appeal, and peak customer satisfaction are your assurance of more sales and greater profits with the PRATT Line of Spiral Mufflers. See your jobber . . . and next time install a PRATT.

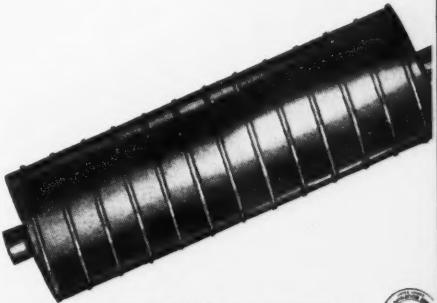
**PRATT INDUSTRIES INC., FRANKFORT, N.Y.  
In Canada: PRATT CHUCK COMPANY, Ltd., Toronto, Ont.**

Pratt Replacement Mufflers are sold only through jobbers.

*Join the Profit Parade with Pratt Spiral Mufflers  
and watch your Muffler Sales Pyramid.*



Patented PRATT SCOOP ACTION swirls exhaust gases into silencing chambers for better silencing and more efficient motor operation. Because PRATT SCOOPS are self-cleaning, they *can't clog*.



Pratt Spiral Mufflers are approved by  
Underwriters' Laboratories, Inc.



**PRATT *Spiral* MUFFLERS**  
**DIFFERENT . . . BETTER . . . FASTER SELLING**

## New Handbook for Employees Issued

Indicative of enlightened practice in industrial relations is the new handbook for employees published by United Specialties Co. The purpose of the book is to acquaint employees with the company and its policies in dealing with its workers. Written in simple language it is easily understood, yet does not give the impression of talking down to the reader.

The booklet deals with many questions which ordinarily are not understood too clearly by many employees.

It contains a history of the company, rules and regulations governing working conditions, benefits to which the worker is entitled, financial information about payroll deductions and similar matters.

An excellent feature is that the booklet deals with all of the small details of employee relations such as a "baby" bonus, library facilities, and similar innovations. Other subjects covered are sick leave, insurance plans, explanation of payroll deductions, holidays, shift premium differentials, compensation for injuries, tools, personal telephone calls, and many others.

## Probst Appointed Chief Engineer of Reo Motors

Appointment of Karl Probst as chief engineer of Reo Motors, Inc., was announced by the Reo management.



Karl Probst

Identified with the automotive

industry since 1906, Probst was at one time head of Probst, Shoemaker, Merrill, automotive consulting engineers in Detroit. In 1940, he was called to the American Bantam Car Co., Butler, Pa., by WPB to design and build the first Jeep.

Probst was a member of the Chrysler Corporation executive staff from 1941 to 1943. For nine months he was assistant general manager of the Chrysler bomber plant in Detroit.

*Logan A NAME TO REMEMBER WHEN YOU THINK OF BETTER LATHES*

**BUILT BY MEN WHO VALUE PRECISION**

The men who build Logan lathes place a premium on precision. From their own daily experience in building precision machines they know how vital accuracy is. Not only Logan executives and engineers, but also the men in the shops, share in an all out determination to keep the Logan Lathe the most accurate in its field. This unflagging accent on accuracy from the first assembly to the final testing has done more than anything else to make the Logan Lathe outstanding in precision as well as in rugged strength. It explains, too, why so many industrial executives are depending on Logan Lathes both in tool rooms and on production lines. Ask your Logan Lathe dealer, or write for full information on all models of Logan Lathes.

**BRIEF SPECIFICATIONS** common to all Logan Lathes: Swing over bed, 10½"; Bed width across ways, 6-15/16"; Bed length, 43½"; Size of hole through spindle, 25/32"; Spindle nose diameter and threads per inch, 1½"-8; 12 Spindle speeds . . 30 to 1450 r.p.m.; Size of motor . . ½ or ½ h.p., 1750 r.p.m.; Preloaded precision ball bearing spindle mounting; Drum type reversing motor switch and cord; Precision ground ways, 2 prismatic "V" ways, and 2 flat ways.

**LOGAN ENGINEERING CO.**  
CHICAGO 30, ILLINOIS

No. 840 Quick Change Gear Turret Lathe

No. 200 Back Geared Screw Cutting Lathe

C-2

## Crosley Car Assembly At Indiana Plant

The Crosley automobile will be assembled at Marion, Ind., in a plant purchased from the old Peerless Co. of America, Inc., according to Powell Crosley, Jr., president of the newly formed Crosley Motors, Inc. Purchase price of the plant is reported to be \$350,000. Engines for the Crosley will be built in Cincinnati.

## New Book on Photo Layouts Published

A new book entitled "Use of Photographs in Layout" by Felix Kraus, has just been published by the House of Little Books, 80 East 11th Street, New York City. The book shows the use of photography in advertising and the many possibilities the layout artist has in using it to good advantage.

The author studied at the Academy of Arts and Crafts in Vienna, Austria. He has exhibited in Austria, Hungary, Switzerland, Italy, Portugal, England and the United States. He is active in art criticism and commercial art and has written on photography in the *Encyclopedia Americana*, *London Art News*, *U. S. Camera*, *Popular Photography*, and many other publications both here and abroad.

"Use of Photographs in Layout" contains 53 photographs by noted artists and 120 sketches by the author. The book sells for \$1.00 and is available in book stores, photographic supply houses and art shops.

# 2-Billion-Dollar Baking Industry— one of many fertile fields for Reo



BUY VICTORY BONDS



Baking is a 2-billion-dollar industry with an annual output of more than 10 billion pounds of bread and other yeast-raised goods—and thousands of brand new bakery trucks are needed immediately.

Reo expects to sell its share of bakery trucks, not only because it has always enjoyed a good share of this business, but because today's Reos are the finest trucks ever built for any industry.

Prospects are bright for Reo dealers—they have a top flight line of trucks and tractors that have made a name for themselves in the toughest service—they have a good name to trade on because "Reo" has meant dependability and economy for 41 years—they have a franchise which dealers themselves helped to write, thus assuring a profitable, friendly dealer-factory relationship.

Plan now to make money with Reo. Write for Reo's "Big 7" Questionnaire today.

**REO MOTORS, INC., LANSING 20, MICHIGAN**  
Factory Branches, Distributors and Dealers in Principal Cities



# REO

1904 • AMERICA'S TOUGHEST TRUCK • 1945

## Huge Expansion Program Slated for Detroit Gear

A \$12 million expansion program and development of a new automatic transmission have been announced by Howard E. Blood, president of Detroit Gear Div. of Borg-Warner Corp. and a vice president of the parent organization. The expansion program will be carried out at Detroit Gear and other divisions and will involve additional facilities and equipment for manufacture of the automatic transmission.

The result of more than 10 years research and development work, the new transmission is described as fully automatic with four forward speeds and one in reverse. It is said to have only seven gears and to be radically different from any such device now on the market. Engineers of the Borg and Beck and Long Mfg. divisions assisted Detroit Gear engineers in development of the transmission. Blood reported that very substantial contracts for the unit already have been made with automobile companies.

## Charles E. Bowes Elected President of Bowes Firm

Charles E. Bowes has been elected to the presidency of the Bowes "Seal-Fast" Corporation, Indianapolis, following the death of his brother, Robert M. Bowes, last June.

Mr. Bowes, who founded the company with his brother in 1919, has been continuously associated with it ever since that date.



Charles Bowes

For many years the new president of the organization was vice president in charge of production and research, and has been personally responsible for the development of many Bowes innovations. Always closely in touch with the sales department, he is now taking an active interest in the Bowes merchandising program, and has unannounced plans for expansion of the business.

## Exide Announces Transfers

Three members of the Automotive sales department in Philadelphia have been transferred to the sales staffs of various Exide Branches, it was announced by The Electric Storage Battery Co., Philadelphia, Pa.

Walter A. Omholt is transferred to the Chicago Branch as senior automotive battery replacement salesman.

Vernon C. Wynott was transferred from the Manufacturers' sales division of the general offices to the Boston Branch.

Frank L. Coffman was transferred to the Dallas Branch as a salesman. He has just returned from service in the Army.

## Dodge Plans High Truck Production Rate

Truck production schedules at Dodge Div. of Chrysler Corporation for the next nine months are based on a production rate substantially larger than the average annual truck output during the five years preceding the war, according to L. F. Van Nortwick, director of Dodge truck sales. Production projected for the rest of this year is materially in excess of that in any previous three-months period in the history of the company.

Conversion of assembly lines from military to commercial truck production was accomplished in two hours, according to L. J. Purdy, vice president in charge of trucks, and if it were not for material shortages, full scale production could have begun immediately. An addition to the truck plant and expansion of other facilities will provide the extra capacity needed for the greatly increased schedules.



There'll be a lot of "familiar strangers" coming in these days now the old car is on a peacetime driving basis. Here's a selling opportunity for you to make extra profits.

Now that gas rationing is off there'll be a lot more driving done. Before faulty cooling puts these old cars off the road, and all cars are old cars today, service the cooling system

with Warner Products. Important as cooling system service is, it is often neglected—your profit opportunity.

**WARNER RADIATOR CLEANER** quickly removes rust, scale and oil muck—opens passages and frees the engine from dangerous hot-spots. Prevents overheating.

**WARNER COOLING SYSTEM PROTECTOR** keeps the cooling system clean—prevents rust—protects metals against harmful chemicals found in most water.

**WARNER-PATTERSON COMPANY**  
920 S. MICHIGAN AVENUE, CHICAGO 5, ILL.



**WARNER**  
COOLING SYSTEM  
**COMPOUNDS**

Every drive-in is a prospect for Warner Products. Sell 'em all!

Advertised regularly in Collier's.

Copyright 1945, Warner-Patterson Co.

STANDARD OF PROTECTION

When writing to advertisers please mention Motor Age

# TIC

EFFORTLESS...Dependable...POWERFUL...Safe

The new **TIC-o-matic**  
**HYDRAULIC**  
The Finest  
in Modern  
Engineering

### Compare these Features

Precision-ground cylinder. Special Leather Cups to prevent leakage. 24" built-in Pump Handle and horizontal pumping action for easy operation in standing position. Built-in Release Valve—lower vehicle by simply pushing pump handle forward.

Revolutionary Tic-O-Valve—gives full power and control under highest pressures. Assures full safety against overload. No balls or conical valves to distort valve seats, or cause leaks. No metal touches valve seats to cause wear or distortion.

Centrally-loaded, wide base—guaranteed slip and tip proof.

### Check these specifications

Capacity 1 1-2 tons

Overall height 28 1-16"

Handle 24"

Hook, low height 7"

Hydraulic lift 20"

Hook, high height 11 1-2"

Max. Act. Lift 31 1-2"

Overall height, extended 48 1-16"

Weight 21 lbs.

All steel and aluminum alloy construction



(Rated Capacity 1 1-2 tons—Tested Capacity 6 tons)

SERIES 1000 BUMPER LIFT MODEL

Patents Pending • Fully Guaranteed

\*Reg. U. S. Pat. Off.



Write, wire or phone for further information and name of representative in your territory

**TUDOR INDUSTRIES CORP.**

PLANT: SCRANTON, PENNA. • MAKERS OF HYDRAULIC JACKS OF PRECISE DISTINCTION.

318 EAST 39TH STREET  
NEW YORK 16, N. Y.

## **Lincoln Mercury Car Production to Be Resumed**

"Production of Lincoln and Mercury cars, delayed because of strikes in plants of major Ford Motor Co. suppliers, will begin before the end of the year — providing there are no further production interruptions due to strikes," J. R. Davis, director of sales and advertising, announced.

Work on the Mercury assembly line at Dearborn, and the Lincoln line in the Lincoln plant, Detroit, now is being rushed to completion.

Appointment of L. W. Smead, formerly assistant branch manager at

Buffalo, as business management head for the general sales division of the Ford Motor Co. was announced.

Purchase of 78 acres of land in New Jersey, 30 miles southwest of Manhattan, as a site for construction of a new plant to assemble Mercury and Lincoln automobiles, was reported by Henry Ford II, president of the Ford Motor Company.

The new plant, to be known as the Raritan plant, will be capable of producing 350 cars a day, Mr. Ford said, and will be the first plant to build Lincolns outside the Detroit area.

Construction of the 500,000 square-foot building is expected to start early next spring.

## **Improved Torque Wrench Introduced**

The JO Manufacturing Co. of South Gate, California, announces the introduction of several improvements in the JOMI torque wrench. They have also added another wrench, Model 1600 to the line. Model 1600 is an extra large, heavy duty wrench with a torque range from 700 to 1600 in./lbs., and a  $\frac{1}{2}$  in. standard drive. At the same time Model 600 has been changed to Model 750, with a torque range of 100 to 750 in./lbs., and a  $\frac{3}{8}$  in. standard drive.



### **SAYS THE MAN IN THE HELMET—**

**"Want an easy-working electrode? Then try this swell AIRCO No. 90..."**

(AWS Classification E-6013)

**"A kid can do a grand all-position job with this A. C. and D. C. electrode."**



**"It's a cinch to use in all positions and it produces fine-looking, uniform beads. Penetration is good but not too deep. That's why it's great for welding thin steel sections.**

**"Slag does not crowd the arc when welding in a vertical position from top to bottom. It gives ample coverage, yet it comes off easily.**

**"The arc has a forceful, spraying action which makes vertical and overhead welds easier. You can use plenty of current — either A.C. or D.C. — and the electrode won't deteriorate at the stub end."**

**FOR WELDING LIGHT-GAUGE STEELS use Airco No. 90-A. It's a honey for welding chrome-moly and similar aircraft steels and it's made in 1/16", 5/64", and 3/32" sizes."**

Airco No. 90 and No. 90A conform to requirements of AWS Classification E6013. For full details on Airco's complete line of electrodes for every welding need — get in touch with your local Airco office and have them send you a free copy of Catalog No. 120. If you wish, address your request to the New York office, Dept. MG.

**AIR REDUCTION**  
General Offices: 60 EAST 42nd STREET, NEW YORK 17, N.Y.  
In Texas: MAGNOLIA AIRCO GAS PRODUCTS CO.  
General Offices: HOUSTON 1, TEXAS  
Offices in all Principal Cities  
Represented Internationally by Airco Export Corp.

*Weld with*

**AIRCO ELECTRODES FOR BETTER WELDS AND EASIER WELDING**

All moving parts pertaining to the torque control feature of the wrench are now ballbearing, reducing error due to friction to the absolute minimum. With the JOMI it is unnecessary to compensate for a frictional load. Variance due to a variable friction load has been entirely eliminated. Overtightening is impossible with the wrench. Once set, it automatically breaks when the predetermined torque has been reached without the operator having to depend upon dials, clicks or taps. The operator instantly sets the tool by turning the guide to the desired micrometer reading on the barrel.

## **Maremont Expands Production Facilities**

An increase in the production of automotive Leaf Springs, Mufflers and Exhaust Systems of the Maremont firm, plus their entry into the agricultural implement parts business has necessitated the purchase of an additional new plant at Harvey, Illinois.

The new plant is expected to employ 500 people and should be occupied within the next 60 days. Covering 19 acres, the property will have a total of 270,000 sq. ft. of floor space.

The Maremont firm now have factories and offices at Chicago and Cicero, Illinois.



*With this job done*

## LO-EX\* PISTONS

*will soon be back on every dealer's shelf*

PRODUCT OF ALCOA ALUMINUM

\*Registered trademark



**ALCOA** FIRST IN  
**ALUMINUM**

## New Carbon Cleaner

E. A. Gerlach Co., Philadelphia 40, Pa., has announced a new carburetor cleaner known as "SOAX." This is a direct acting, cold immersion, ready to use cleaner. The action of the cleaner is fast, and it is claimed that it will soak off carbon, gum, dirt, grease, paint, in 5 to 30 minutes. It is also claimed that the cleaner is harmless to all metals if used as directed. After cleaning, the parts need no treatment to seal the metal.

## Heatab Flame Tablet

The J. W. Speaker Corp., Milwaukee 12, Wis., announces a Heatab flame tablet in a much larger size. The new tablet, called the Heatab Heatmaker, 1½ inches in diameter and nearly an inch thick, produces safe, intense heat. It serves as an emergency highway flare, starts coal fires or bonfires of damp wood, thaws out frozen locks, preheats stoves, boils liquids, heats foods or warms hands and shoes. Foot-high flames do a hun-

dred other outdoor jobs and give industrial service in small-part annealing, experimenting or softening heavy wires for "fishtail" connections.

Ten Heatab Heatmakers, which burn up to 35 minutes each, are sold retail at one dollar a package.

The makers claim that a pint of water in a covered utensil boils in four minutes over the flames of the Heatab Heatmaker.

## New Portable Parts Cleaning Machine

A new portable type parts cleaning machine, which agitates the cleaning fluid by air pressure, has just been announced by the Park Chemical Co., 8074 Military, Detroit 4, Mich.

No heat is required in this new Parko unit to remove grease, grime and carbon from machined parts, castings, gears, electrical parts, instruments, tools, etc.

Two systems of cleaning are combined in the one unit. Large parts to be cleaned are placed in the tank and the cleaning solution is agitated by means of air pressure. The air is dispelled from a series of holes in a pipe which runs lengthwise at the bottom of the tank.

Small parts such as screws, washers, etc., are placed in the round basket and soaked in the solution for a few minutes. The basket can be revolved or swished by hand. After the parts have been cleaned, the rack is placed on an attached drain-shelf which drains the solution back into the tank for re-use. Parts are then blown dry by means of the air gun and rinsed with water or petroleum spirits.

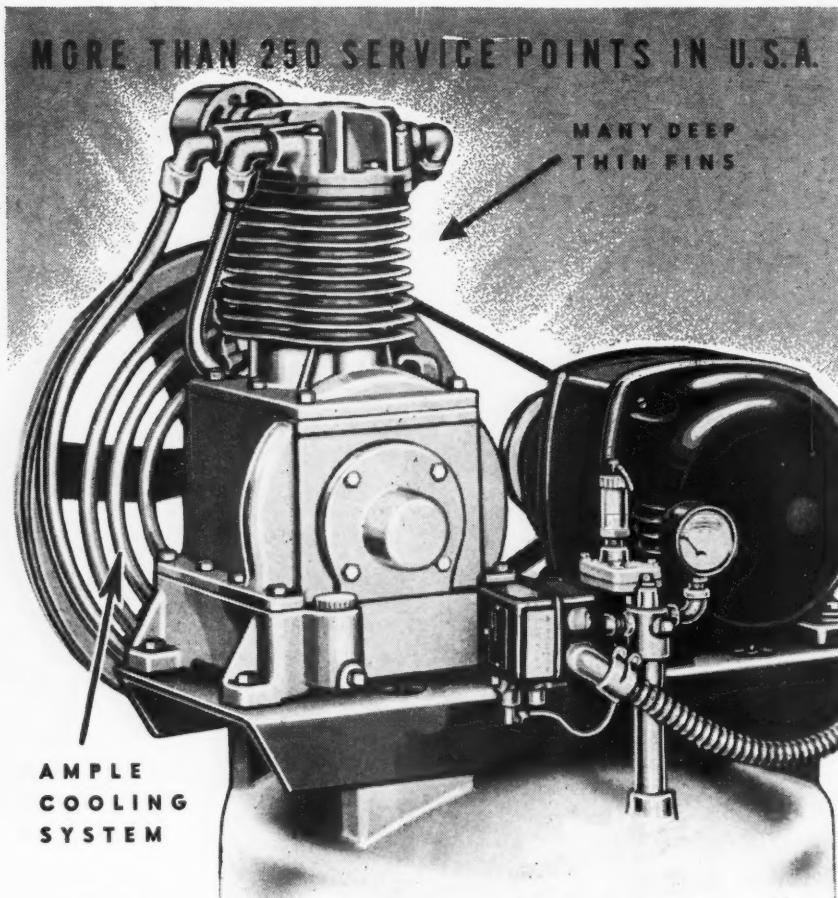
Included as standard equipment are the basket, metal rack for the bottom of the tank, air agitator and air gun with 5 feet of hose.

TANK-SOLV, the new cleaning solution, was compounded especially for use with this new machine.

## Brake Shoe Catalog

Ready for distribution, the new Miley 8-page Brake Shoe catalog will be of particular interest to all service stations and repair shops. Its features are a complete alphabetical listing, newer and more complete than ever before; big, easy readable type, increased in size; a complete numerical cross index; and a section showing interchanged numbers with car factory part numbers.

The new Miley Brake Lining catalog, probably out by November 1, is considerably larger and more complete than ever. Only three steps are required to get the answer to any question pertaining to brake linings, for any make or model of car or truck. Write to L. J. Miley Co., 1062 W. Adams St., Chicago 7, Ill.



## Many Degrees Cooler!

THE best test of efficiency in an Air Compressor is the coolness with which it operates. Wayne's combination of powerful propeller type flywheel with unusually large areas of copper tubing in intercooler and aftercooler, both directly in the path of air, plus deep, thin fins on cylinders, cools the air that enters the tank to practically room temperature. This cool operation means longer compressor life. Write to-day for catalog of Wayne Compressors to get the whole efficiency story.

THE WAYNE PUMP COMPANY, FORT WAYNE 4, IND.



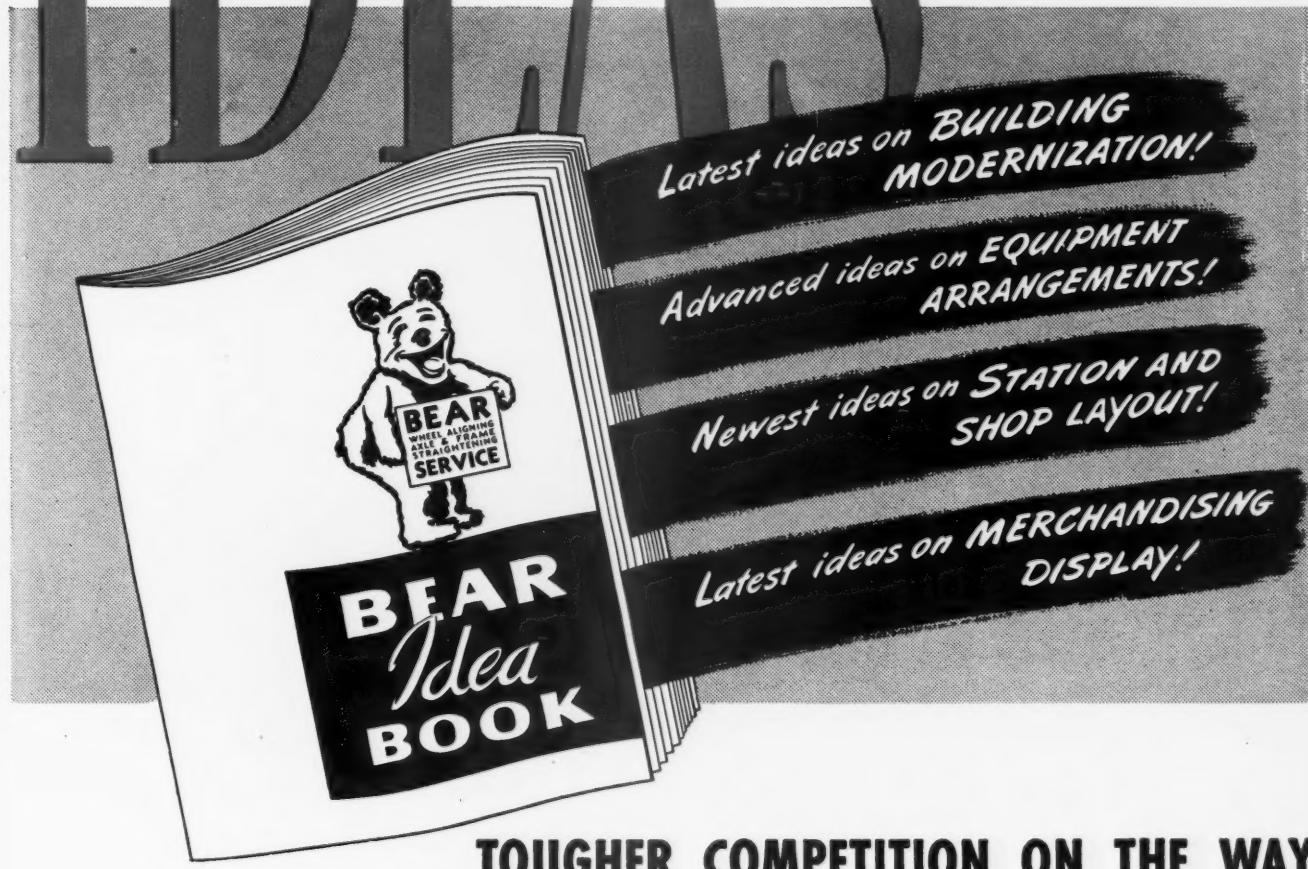
**WAYNE AIR COMPRESSORS**  
GASOLINE PUMPS • CAR WASHERS • AIR SCALES • REELS • LIFTS

# IDEAS for TUNING UP

.. SERVICE STATIONS

.. REPAIR SHOPS

.. CAR DEALERSHIPS



TOUGHER COMPETITION ON THE WAY  
HERE'S BEAR'S **FREE** BOOK TO HELP YOU BEAT IT!

Winners of the Contest for the patronage of America's car and truck owners will be those stations, repair shops and car dealers who PLAN RIGHT and EQUIP RIGHT and DO IT NOW! One thing is certain...the shop that hasn't the proper equipment hasn't a chance! That's why

it's so important that you send for the NEW FREE BEAR IDEA BOOK TODAY... the book that brings you the cream of the newest ideas on tuning up your business to beat post-war's intensified competition! In its 48 pages you'll find over 75 pictures, floor plans, station layouts

and hundreds of ideas for making your station more attractive, more efficient and better equipped to deliver the service car owners will demand! Send for this FREE BOOK TODAY... and you'll see why more than ever before YOU NEED MORE BEAR EQUIPMENT THAN EVER BEFORE!

# BEAR



1358

BEAR MFG. COMPANY  
Rock Island, Illinois

Please send me, without cost or obligation, the 48 PAGE IDEA BOOK which you have produced to help automotive service operators tune up for better service and more profits.

Name \_\_\_\_\_

Firm \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

# It's Big - It's Beautiful!



THIS, we reasoned, is no time to offer folks a car that stops with artful face-lifting.

It has been nearly four years since our last new Buick was built — it wouldn't be shooting square now to give you less than our honor-bright best.

So we overhauled our whole factory to advantage it with the latest in war-developed machines and processes.

We set ourselves precision standards that in some

cases exceed those of aircraft engine production.

We scoured the country for the stoutest metals anyone can buy today.

And we eagle-eyed every one of this Buick's 12,000 parts to see if it could be bettered in any way, big or little.

The result is that through every stunning inch of this bright new honey runs solid, dependable Buick character,

# It's BUICK



honest and uncompromised.

It's in swift clean lines. In seats that are three-persons wide. In stout, time-defying frames and underpinning. Above all—in the lift and life of a Fireball straight-eight that's even livelier than in 1942.

The cars your Buick dealer is now receiving are big. They're beautiful. They're *Buicks*.

In fact—the best *Buicks* yet!

## WHAT OTHER CAR HAS SO MUCH THAT CLICKS FOR FORTY-SIX!

**POWER**—from a Fireball valve-in-head straight-eight engine that gets peak return from every drop of fuel.

**HIGH STYLE**—of car-length Airfoil fenders with bolt-on rear wheel shields.

**OIL SAVINGS**—from non-scuffing Accurite cylinder bores.

**FLASHING ACTION**—of light, lively Flite-weight pistons.

**STEADINESS**—from full-length torque-tube drive in a sealed chassis.

**GLIDING RIDE**—from Panthergait all-coil springing with only a comfort job to do.

**COMFORT**—of soft Foamtex cushions with luxury-type springs.

**SURE FOOTING**—of Broadrim wheels; maximum tire mileage, no heel-over on curves, and better car control.

**CONTROL**—through Permi-firm steering which eliminates need for frequent adjustments.

**CONVENIENCE**—of high-leverage Step-On parking brake that sets with a toe-touch and holds fast.

**PROTECTION**—of buttressed front and rear bumpers, curved to shield fenders, built for new bumper jack.

**SMARTNESS**—of genuine Body by Fisher with one-piece Turret Top, No Draft Ventilation, roomy interiors and three-person seats.

BUY VICTORY BONDS

When better  
automobiles are built  
**BUICK**  
will build them



## New Valve Spring Depressor Announced

A new valve spring depressor designed for one man operation in dismantling and assembling Diesel engine valves is now manufactured by the Paxton Diesel Engineering Co., of Omaha, Nebraska. It is called the SAFE-N-EZY valve spring depressor and is safe and easy to apply, it is stated. The new tool will compress a valve spring to any point and hold it there. This leaves the mechanic's

hands free to remove the keepers and pin and then proceed with the job. It does not nick the stud, and is so designed that the spring can be released safely and simply.

SAFE-N-EZY valve spring depressors are available in sizes and models to fit all modern Diesel engines. Shops servicing Diesels will find it practical to have one of these for each type of engine serviced. The tool is ruggedly constructed, light-weight, and easy to store. Prices range from \$35 to \$40 depending on the model.

## New Booklet Describes Amalie H-D Motor Oil

A new 12-page illustrated booklet released by the Amalie Division of L. Sonneborn Sons, Inc., New York, tells the story of Amalie H-D, a detergent-type, anti-oxidant, heavy-duty motor oil. It describes how costly repairs and layups due to faulty lubrication may be avoided and offers constructive suggestions on how operating schedules may be easily and economically maintained with the right kind of lubrication service.

The booklet, which carries the reminder that hard-driven trucks, buses, tractors, mobile and stationary diesel engines must be kept in smooth running order until replacements are readily available, features a "troubleshooting" section which shows how moving metal parts, including pistons, sleeves, rings and bearings, can be conserved and given extra protection for the toughest kind of service. Sub-zero lubrication practices are also discussed.

A copy of the booklet may be obtained by writing on business stationery to the Amalie Division, L. Sonneborn Sons, Inc., 88 Lexington Ave., New York 16, N. Y., mentioning MOTOR AGE.

## New Probing Tool

A magnetic tool designed to probe for and extract from inaccessible locations, screws, bolts, nuts and other parts made from magnetic materials is announced. Complete interchangeability is assured by standard screw connections. Rigid extension may be used either with or without flexible extension; magnet may be affixed to handle and used in short probing distances. Magnets are assembled in brass threaded receptacles. They are of especially long life quality and can be re-magnetized when necessary, at trifling cost. Finish on extensions is cadmium plate. Distributors, George W. Hamilton Associates, Evans Bldg., Washington 5, D. C.

## Folder on Tubing Tools

A handy tube-working tool selector is one of the features of a new folder on tubing tools recently published by The Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago 7, Ill. The tools are for use with copper, brass, aluminum, thin-wall steel and similar tubing.

Flaring tools, tube cutters, tube benders, coil makers, pinch-off tools, swedging tools, reamers, refacing tools and soldering equipment are all included. There are also a number of handy tool kits.

Copies of this folder, designated as No. 347, may be obtained by writing to the manufacturer.

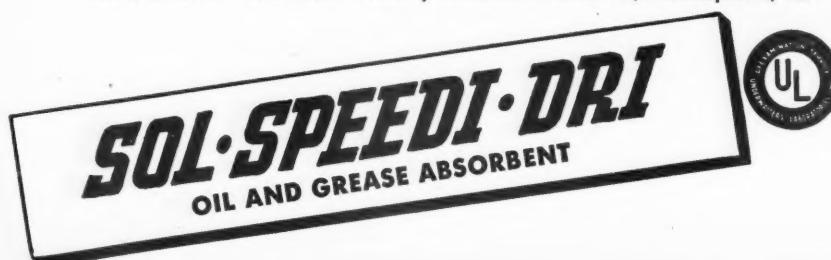


That's right! No more skidding for Joe or anybody else with SOL-SPEEDI-DRI, the granular, oil-thirsty absorbent on the job. It soaks up grease and oil, makes floors clean and safe. The beauty of it . . . SOL-SPEEDI-DRI does not require the use of expensive machines or back-breaking labor. Just spread this Magic Carpet over the offending surfaces, then, after it has absorbed the grease or oil, sweep it up with an ordinary, stiff broom. That's all there is to it!

SOL-SPEEDI-DRI works equally well on all types of floors: Concrete, wood, or composition. And it will not readily burn, even when soaked with grease or oil. That's why we say SOL-SPEEDI-DRI for sick, slick floors . . . that's why SOL-SPEEDI-DRI is recommended by leading insurance companies.

Pin your card to this advertisement, and mail it today for full details, and a generous sample of SOL-SPEEDI-DRI.

**SUPPLIERS:** East—Safety & Maintenance Co., Inc., New York 1, N. Y.  
South, Midwest & West Coast—Waverly Petroleum Products Co., Philadelphia 6, Pa.



# TRUSTWORTHY QUALITY

Battery users have learned that they can depend on Willard Batteries for long life and high grade performance. Depending on Willards is safe because every Willard Battery is built to ONE standard of quality—the traditionally high WILLARD standard. When you sell Willards, you sell TRUSTWORTHY quality.



"SAFETY-FILL"  
BATTERIES

# Willard



Awarded Cleveland  
Plant, Willard Storage  
Battery Company

Automobile • Truck & Bus • Radio • Motorcycle • Tractor  
Aircraft • Charge-Retaining • Marine • Diesel • Stationary

... the power to carry on !

WILLARD STORAGE BATTERY CO. • CLEVELAND • LOS ANGELES • DALLAS • TORONTO

## Improved Marine Engine Developed by Packard

Having built 13,000 of the V-12, 1500 hp. marine engines for Navy PT boats during the war, Packard Motor Car Co., was ready to deliver an improved model with an output of 1800 hp. just before the fall of Japan, according to an announcement by George T. Christopher. It is basically the same engine but incorporates a higher speed supercharger in combination with an aftercooler which lowers the temperature of the fuel and air

mixture entering the intake manifold and thus improves charge efficiency. The new model weighs only 90 pounds more than its predecessor. Navy contracts will carry production on this model through the fore part of 1946.

It is reported that ultimately Packard will make civilian adaptations of the marine engine. Among these might be marine models, industrial powerplants, and smaller output modification—perhaps with less cylinders—for use in heavy duty motor trucks and off-the-road equipment. Other uses also may be found.

## New Hydraulic Systems For Commercial Cars

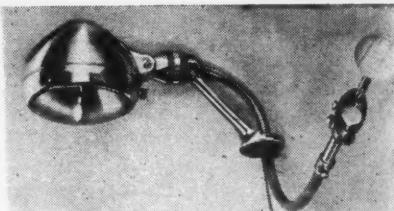
Production has been started on two new hydraulic systems for trucks, truck trailers, and buses which give instant brake action and automatic clutch performance at greatly reduced pedal pressure, PESCO Products Co., Cleveland, division of Borg-Warner, announced.

Both systems can be installed either in new 1946 models or in old models of commercial trucks, buses or tractor-trailer combinations.

The PESCO power brake unit, is designed as a self-contained "package" and can be placed anywhere on the chassis, inasmuch as it requires no specific location relative to either the brakes, master cylinder, or pedal. Being a self-contained unit, there are no brackets that have to withstand the reactions of the braking force, a minimum of piping is required and there are no levers or rods.

## New Spotlight

Announcement has been made by the Arrow Safety Device Company, Mt. Holly, N. J., of the availability



of the new Ivalite remote-control spotlight, model A-O. The spotlight can be mounted on the right side of a vehicle and operated by the driver from his side of the dash. It throws a powerful beam  $\frac{1}{2}$  mile.

## Fuzee Cold Tank Cleaner Now Available

Turco Products, Inc., Los Angeles, announces that its cold tank cleaner, Fuzee, is now available for civilian use. Of particular interest to smaller users is the new dip-tank container, in which Fuzee is optionally obtainable. A metal dip rack has been developed to fit the standard five-gallon container, thus providing a simple means for cleaning small parts by immersion.

Turco Fuzee is a self-sealing compound for use in cold tank immersion cleaning of pistons, fuel pumps, carburetors, etc., from which, according to its manufacturer, it quickly and thoroughly removes stubborn carbon, engine varnish and other adhesive dirt.

Information and illustrated literature on Fuzee is available at Turco Products, Inc., 6135 S. Central Ave., Los Angeles 1, Calif.



A slightly worn moving part of a fuel pump, or the least variation in spring tension will have a serious effect on gasoline mileage, Mr. Dealer.

Periodic fuel pump inspections aid greatly in preserving the mileage life of your customer's cars. Let Kem supply you with a complete line of pumps and parts to replace faulty equipment. These prefitted, replacement parts properly machined with plus margins of strength in casting, insulation and oversizes are covered by the Kem Registered Guarantee. That means service built in the product.

Write for the name of the Kem jobber in your territory.



# New 1946 CHEVROLET



*Styled to lead in  
Beauty*

*Engineered to lead  
in Performance*

*Built to lead in  
Economy*

Outstanding appearance features of the new 1946 Chevrolet include: new Beauty-Leader Styling; luxurious Body by Fisher; new Wide-Wing radiator grille; new hood ornamentation; new two-tone color harmonies; and massive new "Car-Saver" bumpers both front and rear.

Notable engineering features include: Chevrolet's proved Valve-in-Head Thrift-Master Engine for performance with economy; the famous Unitized Knee-Action Ride for comfort; Extra-Easy Vacuum-Power Shift and Shockproof Steering for driving ease; and Positive-Action Hydraulic Brakes for smooth, safe, positive stops.

For years, Chevrolet has been the most economical of all largest-selling low-priced cars, from the all-round standpoint of gas, oil, tires and upkeep; and the new Chevrolet for 1946 is built to maintain this reputation for highest quality at low cost.

*Choose the Leader - CHEVROLET*

FIRST IN SALES

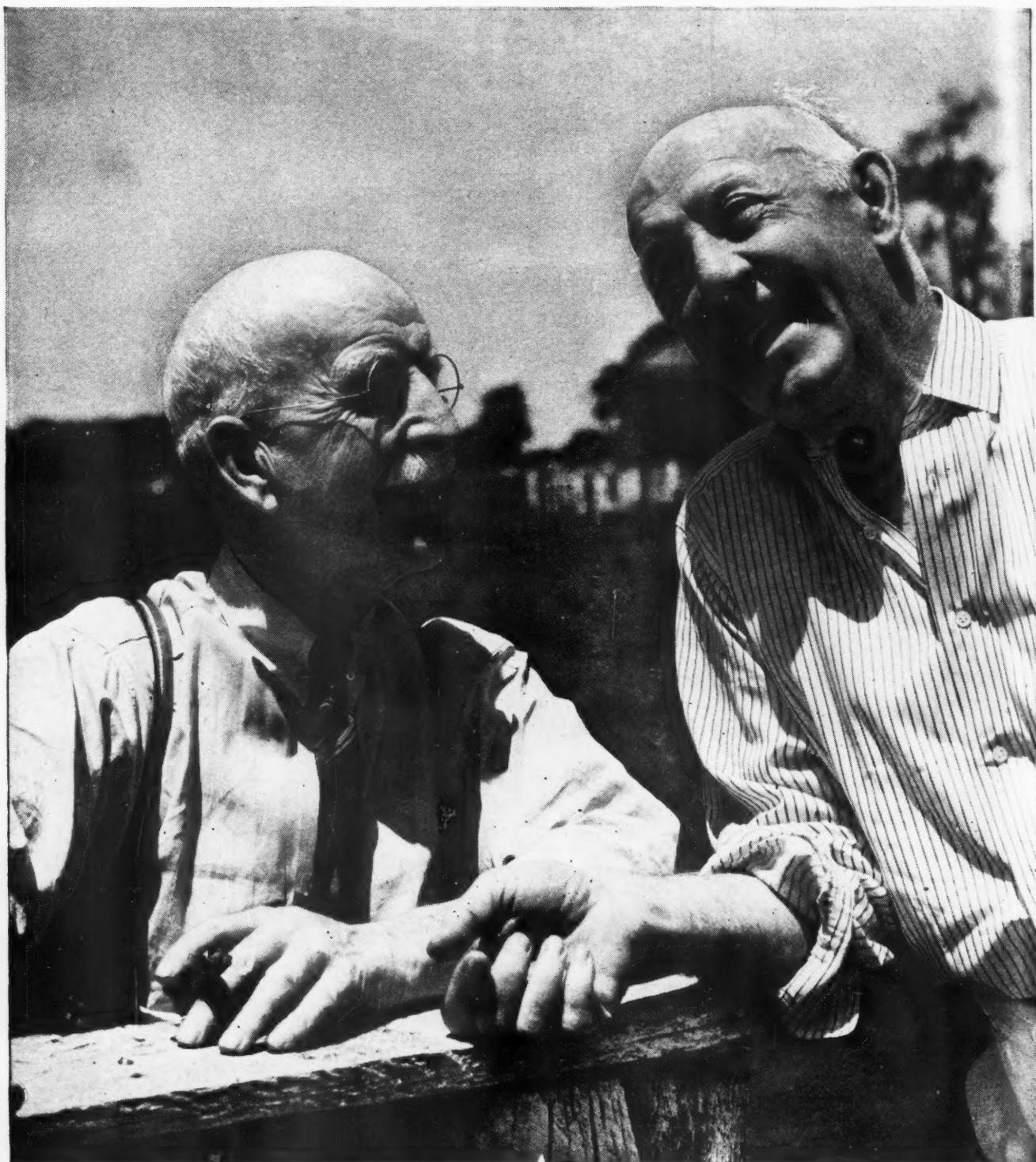


WE KEEP IT FIRST IN VALUE

BUY VICTORY BONDS

CHEVROLET MOTOR DIVISION  
General Motors Corporation  
DETROIT 2, MICHIGAN

\*\*\*\*\* ASSOCIATION



Long years of fine association mean rich friendships. The closer your contact with us, the greater our mutual understanding.

Manufacturers of the  
**CENTURY, RICHLAND,**  
DISTRIBUTED THRU

# M E A N S   E V E R Y T H I N G   \* \* \*

**T**HIS IS A DAY of great opportunity for independent tire dealers. The right tire connection now means expanding profits year after year.

The independent tire dealer allied with a progressive wholesaler knows his source of tires is assured. He knows the jobber-to-dealer method of distribution has proved the *profitable way* for the retailer. He buys when and as his needs dictate and he is assured of friendly, helpful, understanding service.

More than ever before, wholesalers of Century, Richland, United and Mansfield Tires are eager to make successful customers. They will act as your supplier—not Your Competitor. They will safeguard you—not Undermine You.

Truly this is the day of golden opportunity for those independent tire dealers whose vision is clear.

\*     \*     \*     \*     \*

*The Mansfield Tire & Rubber Company always has supported the independent Jobber-to-Dealer tire distribution plan. Through Mansfield's close association with America's leading and most progressive wholesalers, independent tire retailers now are assured of both a distribution policy and a tire selling program on which they can build with definite promise and with real security for the future.*

THE MANSFIELD TIRE & RUBBER CO. • MANSFIELD, OHIO



*Following Well Known Tires—*

# MANSFIELD, UNITED

WHOLESALERS EXCLUSIVELY

## Chinese Auto Firm Opens U. S. Offices

The formation of The China Automotive Co., Ltd., Chungking, China, an organization which will be set up to manufacture diesel-powered motor trucks, has been announced by Mr. T. Pong.

Present plan is to buy frames and parts in this country and to assemble the vehicle in Chungking, using a Mercedes-Benz type diesel engine to be built in China. Temporary headquarters are being established in the USA at 100 W. Huron St., Ann Arbor, Mich.

## MEWA Issues Another Sales Executive's Booklet

"Balanced Selling Built Around Keylines" is title of the October Discussion in M.E.W.A.'s "GETTING AHEAD IN SELLING" service issued in special form for automotive aftermarket executives. Companion-piece to "Your Time Is Your Capital"—the September discussion which told how Jim Sales, automotive wholesaler, organized his work so he could spend more time in the presence of prospects and customers—this discussion relates the methods through which he improved his selling results by estab-

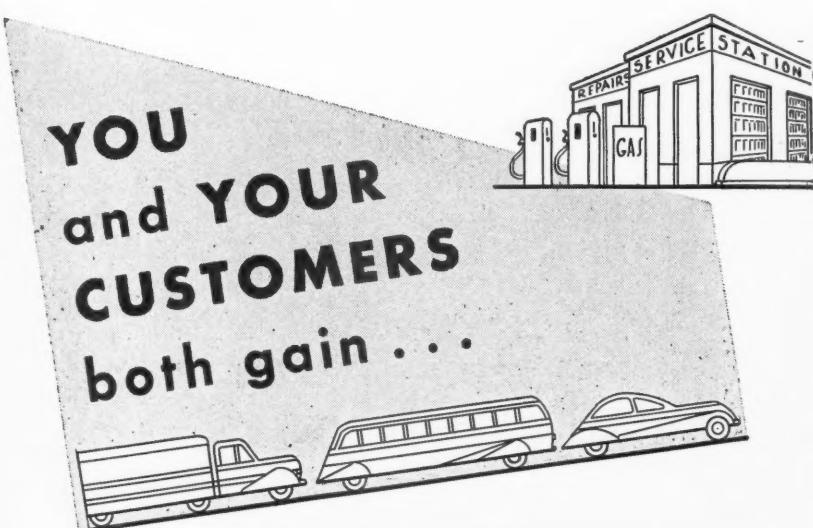
lishing and maintaining sound basic customer relationship as his firm's accredited representative, by national brand emphasis and by BALANCED SELLING built around KEY LINES.

The book supplied in special form to sales executives to assist them in accentuating the positive factors in modern selling. It is supplied in regular form to the approximate 5000 automotive aftermarket salesmen who are subscribers to M.E.W.A.'s "GETTING AHEAD IN SELLING."

## Two-way Radiotelephone Tested by Truck Fleet

A forerunner of general two-way radiotelephone, traffic control, dispatching and routing of some five million highway motor freighters has been successfully demonstrated by the Galvin Mfg. Corporation and Standard Freight Lines, Inc., of Chicago, in recent tests conducted with standard FM, 30-40 MC equipment.

Tests have shown that two-way truck to fixed station radiotelephone communications can be maintained over a distance of approximately 50 miles, while signals from the fixed station to the truck can be heard up to 80 miles.



P & D has always concentrated on the manufacture of quality starting, lighting, ignition replacement parts for trucks, buses and passenger cars.

Service station owners and mechanics have long known of the three benefits to both customer and themselves by concentrating on the P & D line.

1. Minimum inventory because of one complete line.
2. The best is always at hand because P & D makes only one quality . . . the best.
3. Customer satisfaction because good work plus P & D parts mean peak performance.

YOU CANNOT PURCHASE ANY FINER QUALITY



**P & D MANUFACTURING COMPANY, INC.**  
LONG ISLAND CITY, NEW YORK

STARTING • LIGHTING • IGNITION • REPLACEMENT PARTS  
P & D MANUFACTURES ONE COMPLETE QUALITY LINE. ONLY THE FINEST MATERIALS AND WORKMANSHIP OBTAINABLE ARE EMPLOYED



The Motorola-Galvin FM, two-way radiotelephone is simple to install. The controls are on a control panel located on the dashboard. The microphone is plugged into the control panel and red and green pilot lights indicate whether the unit is in transmitting or receiving position.

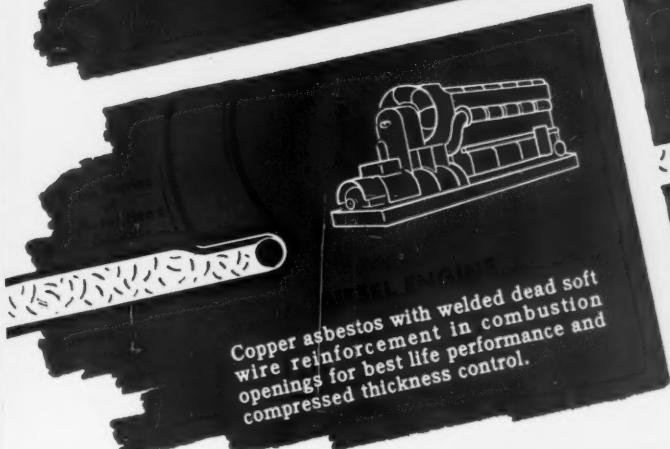
The entire mobile unit is housed in two cabinets which can be bolted to the floor. The truck's storage battery furnishes the power to run both transmitter and receiver. The antenna is base-hinged to permit its passing under bridges and viaducts without breaking.

Present plans call for the establishment of about 100,000 mobile truck radio units and 1,000 fixed or land stations within a very short period.

# Versatility OF CONSTRUCTION METAL & ASBESTOS CYLINDER HEAD GASKETS

Single overlap terne steel asbestos construction. Surface of complete gasket coated at factory with "Precote" to assure positive compression and coolant seal.

Heavy duty single overlap copper-asbestos with thin asbestos filler for greatest resistance to blowout.

Copper asbestos with welded dead soft wire reinforcement in combustion openings for best life performance and compressed thickness control.

Double overlap terne steel asbestos "Precote". A double gasket coated with combustion chamber section for improved resistance to compression and heat.

Copper asbestos with VR Flange combustion chamber reinforcement. This construction combines the ductility and blow-out insurance of copper with the

# VICTOR

GASKETS • OIL SEALS • PACKINGS

PRODUCTS Exclusively

VICTOR MFG. & GASKET CO.  
P. O. BOX 1333, CHICAGO 90, ILL.



Shown here is the first Nash outdoor poster that motorists throughout the country will see.

It's a challenging poster . . . dramatizing the fact that *today* Nash has many of the features the public expects in the cars of the future.

And here's the story behind this poster . . . the reasons why the Nash "600" is the pattern of cars to come.

Careful analysis of what people want in coming automobiles, as specifically expressed in leading independent surveys and polls, shows that the Nash "600" closely matches *every one* of the automotive public's preferences in economy, comfort, and performance.

It has *economy* that stretches the motorist's dollar as it's never been stretched before. For the Nash "600" means 25 to 30 miles on a gallon of gas at moderate highway speeds . . . with a single tankful of fuel covering five

hundred to six hundred miles!

It's a *big car outside . . . a big car inside . . .* with plenty of room for six big people to stretch and relax in comfort. Yet with all its bigness, the Nash "600" has amazing maneuverability. It turns shorter, steers easier, gets away fast.

It has the *finest system of conditioned air* ever built for an automobile. For riding in a Nash "600" means enjoying draftless, fresh, filtered air . . . thermostatically-controlled to your perfect comfort.

It's the *first truly lightweight big car*. Instead of a separate body and frame there is a single integral unit of welded steel. Gone are body squeaks and rattles. New strength and safety are added . . . with a road-hugging buoyancy resulting from 500 pounds less weight, and independent coil spring suspension on all 4 wheels.



# THE PATTERN OF CARS TO COME

And it offers sportsmen the kind of car they've been dreaming about, with a *built-in, convertible double bed* for camping out in style.

And for the dealer, Nash has prepared one of the finest service programs in the industry.

Yes . . . look at the Nash "600" from every

dealer and owner angle . . .

And you'll agree it's the pattern of cars to come!

**NASH MOTORS**

*Division of Nash-Kelvinator Corporation, Detroit 32, Mich.*

In: Nash-Kelvinator's hit musical program, Wednesdays 10:30 P.M., E.S.T. • 9:30 P.M., C.S.T. • 8:30 P.M., M.S.T. • 7:30 P.M., P.S.T. • Columbia Broadcasting System



## Goodyear Announces Personnel Shifts

Appointment of George B. Swarthout as manager of the New York City district of the Goodyear Tire and Rubber Co. was announced by Goodyear officials in Akron, in a personnel shift also affecting districts with headquarters in San Francisco, California, Albany, New York and Boston, Mass.

Mr. Swarthout, who has been manager of the San Francisco district

since 1936, succeeds D. H. Strong who has resigned to enter business for himself. Mr. Swarthout, in turn, will be succeeded at San Francisco by Winslow Wetherbee, manager of Goodyear's Albany, New York, district.

The vacancy at Albany will be filled by R. E. VanAkin, formerly assistant to F. W. McConky, Jr., Northeastern division manager in New York City. Replacing Mr. VanAkin in the division office will be G. G. Hancock, formerly assistant district manager of the Boston district.

## Buick Dealer Group Sets Delivery Figures

The Buick dealer organization is geared to deliver more than 300,000 new cars at retail during the next 12 months. The same organization, with relatively little change in numerical strength, will handle Buick's ultimate capacity of upwards of 550,000 cars annually.

This was the statement recently of W. F. Hufstader, Buick general sales manager, who announced that with the current introduction of the 1946 models, a nationwide sales program has been inaugurated.

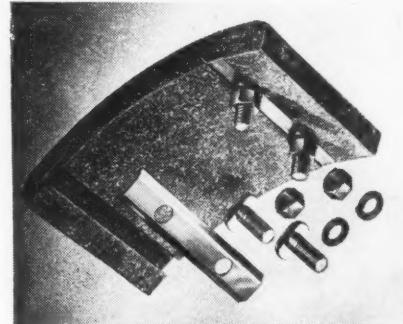
That Buick will rely upon its retail sales organization, numbering approximately 3,000 dealers, to handle an ultimate 50 per cent increase over prewar volume was emphasized by the executive in restating Buick sales policy.

## Raybestos Introduces New Brake Block

A heavy duty brake block which slides into place instantly is a new development of The Raybestos Division of Raybestos-Manhattan, Inc., Bridgeport, Conn.

The new block, which is called "Key-Lok," does away with laborious and time consuming bolting in relining.

"Key-Lok" blocks are made with lateral "fishtail" slots or keepers in which bolts are inserted, spaced to fit in the brake bands. These keepers slide into fishtail slots cut into the block.



This means that the keepers or shoes never need to be removed for relining. This eliminates hours of labor as well as the danger of springing the shoes out of their proper radius.

Other advantages claimed for the new "Key-Lok" block is the elimination of bolt holes which collect deposits of dirt and grit, increased friction surface and prevention of scoring. It also increases the holding ability of block to shoe.

The "Key-Lok" development is adaptable to both internal and external applications and can be applied to all molded Raybestos blocks.

MORE and MORE and MORE  
MORE and MORE and MORE

THIS IS A SIGN OF BETTER BUSINESS

Successful business is built largely on handling products that people will buy again and again—and on which you make a good profit.

For years, dealers all over the country have rated Pennzoil their fastest selling premium motor oil. Today the demand for Pennzoil is the largest in history.

It is the result of consistently maintained and improved quality, effective and continuous advertising, practical and resultful co-operation with Pennzoil dealers, and a sound profit proposition.

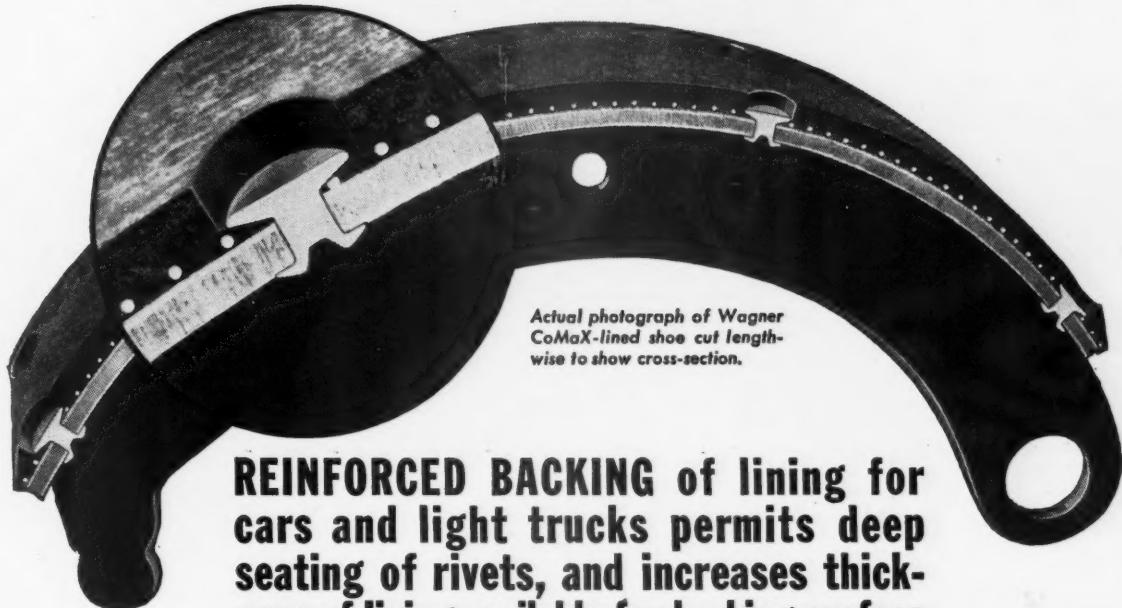
Find out how Pennzoil helps you get more customers—better customers—and more profits. Send today for details on the new Pennzoil winter lubricants program.

**THE PENNZOIL COMPANY**  
EXECUTIVE OFFICES

OIL CITY, PA.

**RELINE  
WITH**

# **Wagner** **CoMax** **BRAKE LINING** **- it's available!**



Actual photograph of Wagner CoMax-lined shoe cut lengthwise to show cross-section.

**REINFORCED BACKING** of lining for cars and light trucks permits deep seating of rivets, and increases thickness of lining available for braking surface

The illustration shown above brings out an important feature of Wagner CoMax Brake Lining. Note how the reinforced backing permits deep seating of rivets and thereby increases the thickness which can be worn down before the lining is replaced.

This "extra mileage" feature is but one of many reasons why Wagner CoMax is often referred to as "the world's finest brake lining."

Wagner CoMax is long-lived because the ingredients wear slowly. It does not compress or swell, and has uniform friction qualities.

Available in sets, rolls, blocks, slabs, and

cut segments. For details on Wagner CoMax, or on Wagner Lockheed Hydraulic Brake Parts and Fluid, consult your nearest Wagner jobber, or write us.



B45-6

## **Wagner Electric Corporation**

ESTABLISHED 1891

**6498 Plymouth Avenue, Saint Louis 14, Mo., U. S. A.**

In Canada: Wagner Brake Company Limited, 43 Edward St., Toronto

**WAGNER** Automotive Products include: **WAGNER LOCKHEED HYDRAULIC BRAKE PARTS** and **FLUID**, **CoMax BRAKE LINING**, **WAGNER AIR BRAKES**, **NoRoL**, and the **TACHOGRAPH**

## **Northrop Aircraft Issues Historical Plane Booklet**

Roscoe Turner . . . Jimmy Doolittle . . . Frank Hawks . . . Jacqueline Cochran . . . Wiley Post . . .

They bring up nostalgic memories, these names of the people who were giants in the little aviation industry of yesteryear. Memories of the national air races which furthered speed, and the long and lonely overwater hops by which the practicality of airplanes was proved.

Northrop Aircraft now has a new booklet which will bring up similar memories. Historical planes are pictured and described. You will recognize many of them as "that last word" of many years ago, which didn't turn out to be the last word after all. And all of them were born with the name of Northrop on them.

If you're interested in this booklet drop Northrop a card. No obligation. It's free. The address is Northrop Aircraft, Inc., Northrop Field, Hawthorne, California.

## **Auto-Lite Announces New Representatives**

Fourteen new representatives have been added to the Merchandising Division of the Electric Auto-Lite Co., according to an announcement by F. A. Nealon, sales manager.

New representatives are: Eastern division—Robert W. Ball, Gilbert A. Burns, Arthur E. Clark, John W. Lingle, Jr., Vincent P. Moore, and John C. McLeary; Midwest division—William G. Jowers, George Mackey and Calvin E. Myerly; Southern division—Clarence F. Cope, George O. Herring, John G. Mitchell, Jr., and James B. Peddy; Western division—Herbert D. Noonan.

## **Fast Battery Charging Units in Production**

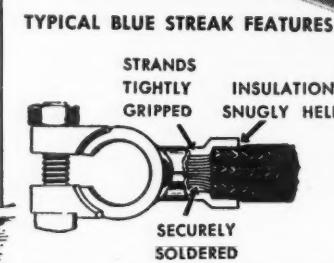
The Benwood-Linze Co. of St. Louis, is again in production of the Fast Battery Supercharger.

The post-war model priced at \$219.50, embodies many new engineering features, the maker reports.

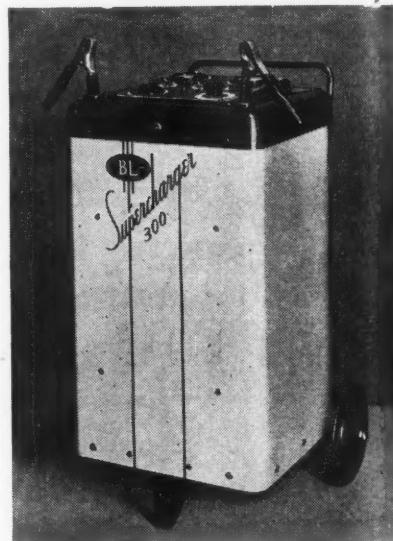
The function of the Fast Battery Supercharger is to deliver direct current of the required rating for the quick no-removal charging of storage batteries, in an automobile or else-



When you're checking oil and battery...look at the battery cable too. Greenish deposits at the connections mean corrosion of the terminals and cable. Batteries bog down under the extra strain...engines won't turn over. Eventually the car balks. So save that battery and make an extra profitable sale as well; suggest Blue Streak Battery Cable for longer service.



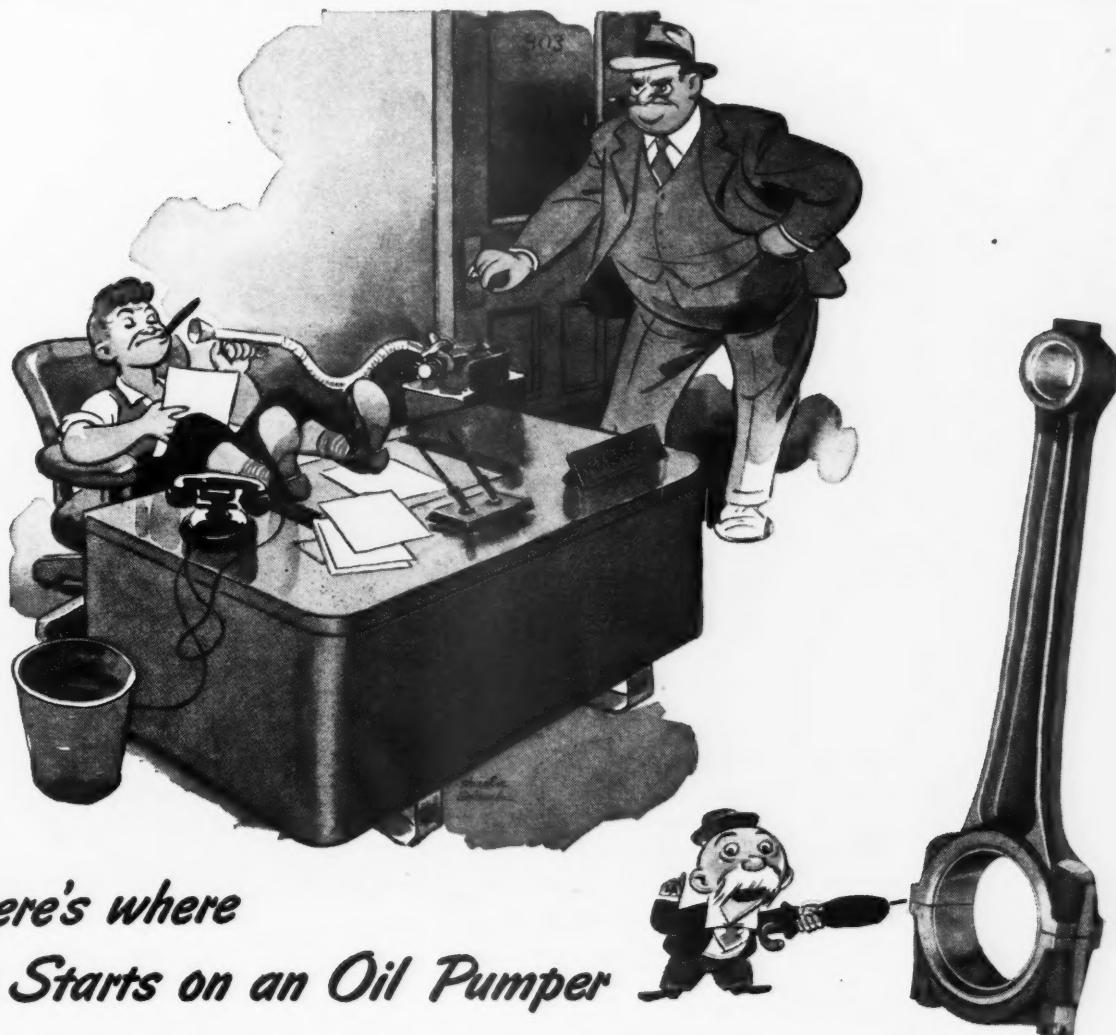
Take a tip from 36,000 service shops. Blue Streak Ignition Parts are tops for long life, peak performance, rugged service.



where. Maximum time required averages 20 minutes. In addition, the Supercharger detects and registers shorted and defective batteries, sulphated batteries and provides for the elimination of sulphation.

The unit is portable, weighing 130 pounds and mounted on large wheels with rubber treads—10-foot DC leads and 20-foot AC cords permit easy access to the available power supply. Two superchargers are designed, one to operate from 100 volt 60 cycle AC; the other from 220 volt 60 cycle AC. Deliveries will commence in the near future.

# Here's Where the Trouble Starts!



## And here's where Trouble Starts on an Oil Pumper

When badly worn bearings are left in a reconditioned engine, they can soon render the best of new piston rings inefficient, as well as seriously endanger the crankshaft and other vital units. Worn bearings lose their metering control of oil throw off. Excess oil reaches combustion chambers, burns to motor-fouling carbon on piston rings, pistons, spark plugs and valves, resulting in sluggish, costly operation. To do

the whole job right, to avoid overhaul "comebacks" and to protect hard-to-get parts, always check the bearings. If worn, replace with Federal-Mogul Oil-Control Bearings to restore power, pep and economy for the long run. (Service bearings are still scarce. We are doing all we can to maintain the supply.)

FEDERAL-MOGUL SERVICE • DETROIT 1, MICHIGAN  
DIVISION OF FEDERAL-MOGUL CORPORATION

Replace With Genuine

# FEDERAL-MOGUL

**Oil-Control Bearings**



## Invest in Your Future... Buy VICTORY Bonds

# Let's Look at the Record *...You Need an Oil Filter*

A black and white illustration. In the background, two men in 1940s-style clothing are standing next to a vintage car. One man is holding a small rectangular oil test pad, which has a dark, mottled pattern. In the foreground, there are two large cylindrical oil filters. One filter is upright, showing a circular logo with 'AC' and 'OIL FILTERS'. The other filter is lying horizontally. A large, stylized 'AC' logo is superimposed over the filters. To the right of the filters, a small American flag with stars and stripes is visible. The overall theme is automotive maintenance and the quality of AC oil filters.

**Quick as a wink,** the AC Oil Test Pad makes a visible record of the condition of your customer's oil—a record that shows the presence of dirt, gum, or metal particles.

To sell an AC Oil Filter or Element, all you do is to show the oil smear to the customer and tell him how dirty oil clogs rings and slots—makes valves stick—wastes power and fuel—runs up repair bills.

And don't forget, there's an AC Element to fit practically all makes of oil filters,—for cars, trucks and tractors,—an element that cleans oil better because of its quality features.

Be sure to use AC Oil Test Pads whenever you check oil—and keep a stock of AC Filters and Elements on hand to fill increased orders.

\* \* \*

— SEND FOR AC SHOP MANUALS —

Field Service Dept., AC Spark Plug Div., G.M. Corp.  
910 Mott Foundation Building, Flint 3, Mich.

Gentlemen: Please send at once, no charge, the AC Shop Manuals checked:

- |  |  |
|--|--|
| <input type="checkbox"/> How to Service Spark Plugs                    | <input type="checkbox"/> HOW TO SERVICE OIL FILTERS  |
| <input type="checkbox"/> How to Service Spark Plug Cleaner             | <input type="checkbox"/> How to Service Fuel Pumps   |
| <input type="checkbox"/> How to Service Ammeters and other Instruments | <input type="checkbox"/> How to Service Air Cleaners |
| NAME _____   | MA-11  |

FIRM \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

LET'S  
FINISH  
THE JOB—  
BUY  
VICTORY  
BONDS

**AC**  
**OIL FILTERS**



## Wartime Developments In Fuels Reviewed

Jet propulsion and peacetime applications of wartime developments in fuels and lubricants was reviewed at the SAE National fuels and lubricants meeting held November 6 and 7 at Tulsa, Okla. The gathering marked resumption by the Society of Automotive Engineers of a schedule of national technical meetings interrupted to free transportation facilities for war uses, it was announced by SAE general manager John A. C. Warner.

A paper on "SAE Activities in the Fuels & Lubricants Field," by SAE president James M. Crawford, of Detroit, Mich., and C. B. Veal, secretary and manager, Coordinating Research Council, New York, was one of the presentations.

## Marshall-Eclipse Div. Expanding Plant Area

A four-fold expansion of plant facilities to meet expected demands for brake linings for postwar passenger cars and trucks was begun recently by the Marshall-Eclipse division of Bendix Aviation Corp. with the breaking of ground for a new factory at Troy, N. Y.

The new plant, now under construction, will be four times larger than all of the present buildings of the division, which during the war turned out virtually all of the brake lining for jeeps as well as linings for other military vehicles, according to Frederic C. Weyburne, general manager. When the plant begins operation next spring, employment will be considerably above the wartime peak, he added.

The new plant, which will cost more than \$500,000, will provide approximately 800,000 square feet of space. One of the two present plants of the division will be remodelled to provide new offices and a much larger research and engineering department. The second plant, now used for manufacturing operations, will be used for storage.



"To run eighty thousand miles, the motor must be good!"

## New Booklet Offered

"How Surface Chemistry Can Speed Up and Simplify Diesel Engine Overhaul," a new, illustrated booklet is offered by Turco Products, Inc. The booklet describes in specific detail labor-saving, chemical short cuts which make possible increased production without increasing present overhaul facilities.

Fast, simple methods of removing carbon, grease, oil, asphalt and tar, are described. A procedure is out-

lined for cleaning and descaling the cooling system. A setup for salvaging parts from wrecked equipment is explained. Chemical methods for removing and preventing rust, and for preventing scale are also discussed. Facts are given on removing oil paint, preparing painted surfaces to receive a new paint coating, and preparing metal to bond durably with paint.

This booklet is offered without cost or obligation, simply on letterhead request.



GUIDE PULLER SETS

Husky, reliable outfits, consisting of Driver and Puller, for all Ford-built motors since 1934. Pull "frozen" guide assemblies, no matter how tight. No. 920 Set for Ford 85, Mercury and Lincoln-Zephyr. No. 860 Set for Ford 60 only. Service manual free.

# Tools THAT EARN THEIR KEEP



NO. 600 VALVE LIFTER

For nearly all L-head motors. An old established favorite in thousands of shops. Adjustable, tempered jaws, parallel acting.



NO. 380 COMPRESSOR

Fast and strong, services nearly all L-head and valve-in-head motors. Two pairs tempered adjustable jaws, straight and offset. 10" x 10 1/4" inside clearance.



NO. 10K PLIERS KIT

Those 4 popular K-D Pliers in a NEW roll Kit to fit the pocket. Just right for all small work in hard-to-reach places. Each 4 1/4" long with milled jaws and knurled handles. Tempered.



NO. 605 KEEPER INSERTER

For nearly all split keepers. Easy loading, self supporting on valve stem. Ideal for use with 600 and 380, see above.



NO. 900 LIFTER

For fast under-fender use. 8 3/4" long, 3" parallel lift. Tempered jaws. Auxiliary jaws for extra high lift.

## K-D MANUFACTURING CO.

Lancaster, Pa., U.S.A.

Canadian Factory  
HAMILTON, ONTARIO

Ask Your Jobber  
for Net Prices

## GMC Truck and Coach Plans Expansion

Ground has been broken for a new coach assembly plant marking the first step in a modernization and expansion program at the factories of GMC Truck & Coach Division of General Motors in Pontiac, Michigan, according to M. D. Douglas, general manager.

The entire program, which will add 1,500,000 square feet of floor space to GMC's present plant facilities, includes three major building projects:

An assembly plant for production of GM cruiser-type coaches. An engine plant for manufacture and assembly of GMC engines. A new Engineering Building for experimental work.

Work has already been started on the new plant, and it is expected to be completed around December 15, 1945. Work on the other buildings will be pushed as rapidly as possible.

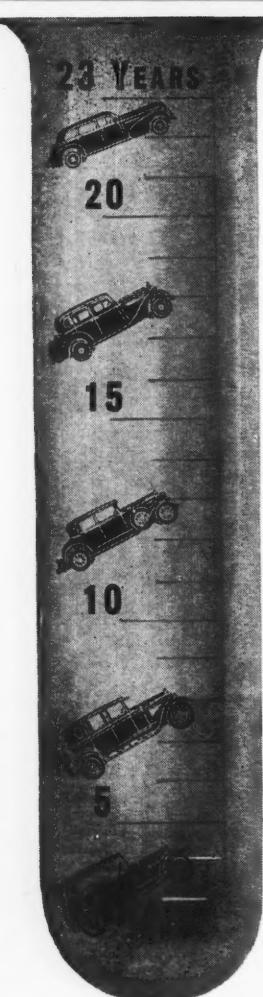
This extensive modernization and expansion program will provide facilities for the greatest commercial truck production in GMC history and will make possible an annual GM coach volume double that of the best previous sales year, Mr. Douglas stated.

Mr. Douglas pointed out that GMC expects to exceed pre-war truck production levels by the end of 1945 and anticipates an all-time high in GMC truck production in 1946.

## New Flaring Tool

A new Flaring Tool that takes care of no less than 7 tube sizes— $\frac{1}{8}$  in.,  $\frac{3}{16}$  in.,  $\frac{1}{4}$  in.,  $\frac{5}{16}$  in.,  $\frac{3}{8}$  in.,  $\frac{7}{16}$  in., and  $\frac{1}{2}$  in., is announced by the New Britain Machine Co., 140 Chestnut St., New Britain, Conn. Several new features simplify the use of this

# Continuously for 23 Years



- • • SAME MANAGEMENT
- • • SAME OWNERSHIP
- • • SAME BRANDED LINE
- • • SAME GUARANTEE

CAMELS four-square assurance of satisfaction is based on solid American business dealings. Since "touring car" days the same owners have directed the manufacture and improvement of CAMEL Patches.

This same management has expanded the line so that now one familiar name covers everything . . . a complete line, one top quality . . . the finest possible to make.

Back of every CAMEL product is a guarantee which has protected users for 23 years. This guarantee of absolute customer satisfaction means happy traveling everywhere.

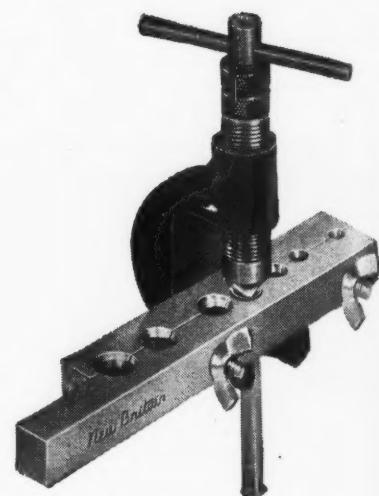
CAMELS are the ideal patch for either synthetic or natural rubber tubes. The perfect bond "renews" tubes for additional service. And use CAMELS to repair household rubber items the same way!



Look for the familiar CAMEL package anywhere!



Other CAMEL Products available in the complete line are: Quick Cure Gum, Tube Repair Kits, Garage-size Kits, Vulcanizing Cement, Rubber Cement, Tire Patch Cement, Vulcanizing Kits, and Valve Stem Heat Units.



tool and assure clean, accurately flared tubes. Two wing bolts are provided to get correct fit and tension on the tubing, and one bar is elongated to hold the tool in a vise for easy accessibility to each working position. The extent of the flare in each diameter of tubing is controlled to prevent overflaring, crystallization of the tube or splintering of the flared edge.

## Reference Manual Issued

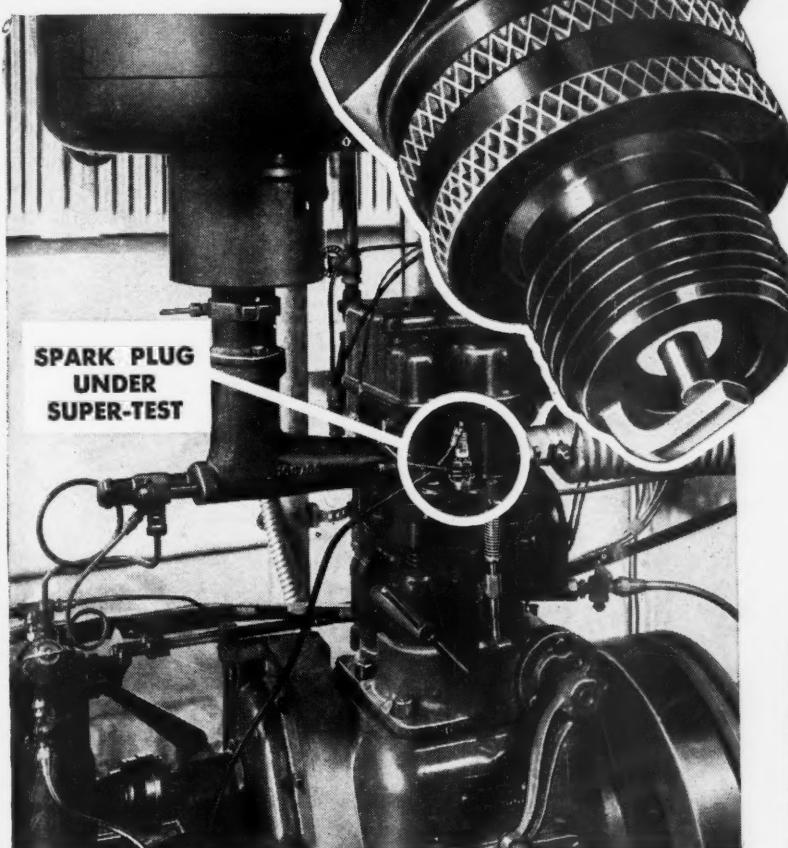
To help instruct in the use and care of metal cutting tools; as well as to supply reference material any mechanic must have handy at all times, Keystone Reamer & Tool Co. has published a 65-page reference manual. Such articles appear in the first 35-page section as follows: The use, care and reconditioning of reamers, a list of reaming pointers, pertinent data on screw thread cutting taps and dies, valve reseating hints, points on twist drills, facts on motor reconditioning, how to operate and read the micrometer, tap drill and thread sizes, table of decimal equivalents, speed of carbon steel drills, miscellaneous tables and useful information, plus 32 pages of data on the Keystone tool line.

You may secure a free copy by writing to Keystone Reamer & Tool Co., Millersburg, Pa.

# SUPER-TESTED

UNDER RIGOROUS  
*Dynamometer*  
CONTROL

Note the massive over size construction of a BLUE CROWN "HUSKY" . . . No skimping of materials to reduce cost. Parts are HUSKIER, to resist engine vibration, fight wear and tear, take rough handling, last longer.



Specially designed laboratory testing engine for testing BLUE CROWN "HUSKIES".

# BLUE CROWN HUSKY



## Controlled Heat Zone SPARK PLUGS

Super-Tested accurately and conclusively in BLUE CROWN Laboratory, with specially-designed universal, supercharged, fuel-injected engine.

Before going into production, all newly designed BLUE CROWN "HUSKIES" are exhaustively engine-tested under rigorous dynamometer control to determine heat range, pre-ignition point, fouling range, ease of sparking during actual engine operation, engine and plug temperatures, fuel consumption, supercharge, speed, load and all factors essential to accurate testing of the BLUE CROWN controlled heat zone.

### MAIL COUPON TODAY

BLUE CROWN SPARK PLUG CO.  
1800 Winnemac Ave., Chicago 40, Ill.

Please send your service Bulletin on "How to overcome spark plug troubles".

Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

Sold only through Jobbers



DOMESTIC SALES  
**BLUE CROWN SPARK PLUG CO.**  
a DIVISION of MOTOR MASTER PRODUCTS CORP.  
1800 WINNEMAC AVENUE, CHICAGO 40, ILLINOIS

EXPORT SALES  
Borg-Warner International Corp.  
CHICAGO 4, ILLINOIS U.S.A.  
Cable Address "BORINTCO"

## Goodyear Postwar Tire Unveiled at New York

The first postwar passenger-automobile tire, made of synthetic rubber and claimed to be able to "outwear naturals," was unveiled at New York recently by John L. Collyer, president of the B. F. Goodrich Co.

Discussing the significance of the new tire's commercial debut coming five weeks after the end of the war, Collyer said the progress it represents "in improving and in working with man-made rubber automatically gives

American synthetic rubber increased stature in the world rubber picture."

A. W. Phillips, general superintendent of the company's tire division, explained the technical aspects of the new tire. He said it owes its ability to outwear natural-rubber tires—said to have been proved by a rigorous testing program—to a combination of new construction ideas and the use of a special variety of Government synthetic rubber known as GR-S 10 and developed by B. F. Goodrich engineers.

"It should be made clear that the advent of this tire does not mean that

synthetic rubber, in itself, is now the equal or the superior of natural rubber for use in tires," Phillips said. "The chief reason for the high performance record is the strength and durability achieved through construction changes. Yet the GR-S 10—in which a rosin-base soap replaces fatty-acid soap as a mulsifying agent in the latex—is an important factor in attaining better wear, cooler running, and greater resistance to tread cracking and carcass bruising."

The new tire has undergone extensive testing in actual service, Phillips reported, on a number of police patrol automobiles and on taxicabs in Philadelphia, Cincinnati and Louisville. In addition, a large B. F. Goodrich test fleet has tested the tires under severe overloading and high-speed and high-temperature conditions in Texas during the past three months. In all, more than 16,800,000 test miles have been run.

When the new tire will be available in quantity to eligible motorists is indefinite at this time, it was stated. Distribution will go forward as fast as possible.

## Final Assembly on New Nashes Delayed

Final assembly of new 1946 Nash cars has been delayed at least thirty days because suppliers are unable to make deliveries of minor parts, George W. Mason, president of Nash-Kelvinator Corp. said late last month.

The delivery of engine bearings, pump shafts and shackle bolts by suppliers, Mr. Mason said, is delayed by strikes. The flow of other minor parts also is held up by parts supplier strikes and temporary shortages of men or materials.

In August, Nash Motors announced that its new car schedule called for limited production of automobiles by October 1 provided parts and materials were available.

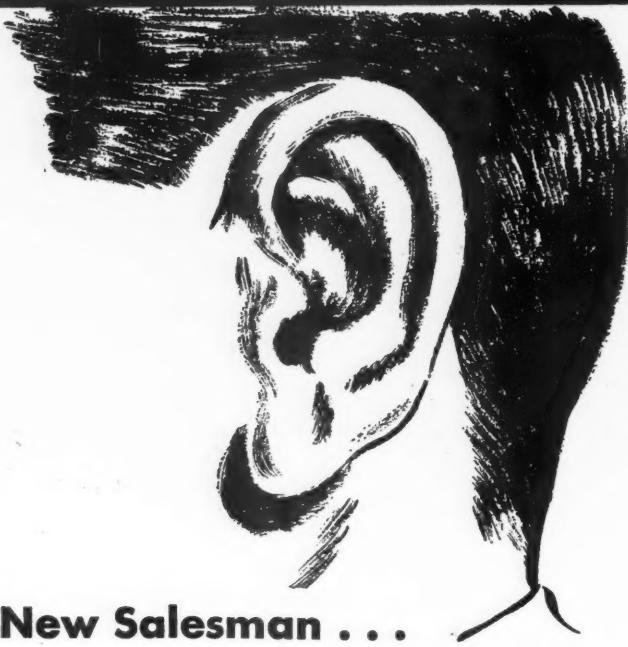
The schedule, now delayed, also called for full prewar production levels being reached by January 1.

## NSPA Issues 1945 Roster Supplement

The National Standard Parts Association has issued an "autumn supplement" to its 1945 roster, known as the "Leadership Directory." It is a booklet which reflects some of the new gains made by NSPA this year.

The supplement contains the names of 50 new member firms and their association delegates. These are the members passed by the membership committee and approved by the board of directors in mid-summer. They are in addition to 17 members admitted in January and included in the regular roster.

VALVOLINE . . . THE ORIGINAL PENNSYLVANIA OIL



New Salesman . . .  
working for you!

Your customer today, with a new automobile probably still some months away, has an ear sharply tuned to the sound of his over-age motor. He wants to be sure it will keep on purring smoothly—right up till the time when he trades it in. This is a golden

moment for you—urge him NOW to save that motor with Valvoline, the oil so good it can be *unconditionally guaranteed*. He'll be coming back to you for Valvoline protection regularly—for years. Write for full details of our unconditional guarantee plan.



# VALVOLINE

MOTOR OIL

COSTS MORE TO MAKE — COSTS LESS TO USE

Unconditionally Guaranteed

VALVOLINE OIL COMPANY

431 Main Street, Dept. 12-K, Cincinnati 2, Ohio

New York - Atlanta - Pittsburgh - Chicago - Detroit - Los Angeles - Vancouver, B. C. - Washington, D. C.  
Refinery at Butler, Pa.

# City "X-4"--Right Spot For You?



Take a good look and a *quick* look—for this picture's going to change.

Right now it's a good Eastern open point, with no Packard dealer.

But there's an alert operator (reading this advertisement today) who will soon be going to town in City "X-4."

The facts about it are these:

**134 Packard Owners**—immediate source of a thriving parts and service business. 134 satisfied owners who have solidly established the Packard name in this city and can quickly establish yours.

**119 Car Quota**—119 of the finest Packards ever built—this city's share of Packard's postwar production goal (200,000 cars per year). This local quota was set after careful analysis of the Packard market and sales potential in City "X-4."

**Investment Required**—with \$15,000, according to our

business management analysts, a Packard dealer could begin satisfactory operation in this city.

**Annual Profit**—profit projections for this city indicate a normal annual return of \$13,000, including the operator's salary. The dealer we want here can count on more.

Inquire now about Packard's "opportunity cities." Either "X-4" or another one nearer you.

Frankly, we haven't enough open points to take care of the applications already received. But the points we have are good—too good to give to any but the highest type of operators.

If you're this kind, phone or wire the Packard Sales Division, 1580 East Grand Blvd., Detroit 32, Michigan.

★ ASK THE MAN WHO OWNS ONE ★

# PACKARD

## "A Good Company to do Business With"

## Graham-Paige Names New Zone Managers

William H. Pitt, for many years with General Motors in sales distribution, has joined Graham-Paige Motors Corp. as Dallas, Texas, regional manager, it was announced by W. A. MacDonald, vice-president in charge of sales.

In the automobile business for fifteen years, Mr. Pitt served with the Chevrolet Division and in the Cleveland General Motors zone office. During the war he was with the Cleveland Bomber Plant.

The Dallas zone includes Texas, Louisiana, Oklahoma and Arkansas.

Appointment of John A. Fitzgerald as manager of the Charlotte, N. C., region for the sales and distribution of Graham-Paige Motors Corp. automobiles was also announced.

In the automobile business for twenty years, Mr. Fitzgerald was formerly district manager for DeSoto in North and South Carolina and for Chrysler in Minnesota. During the war he was Signal Corps coordinator at the Willow Run bomber plant, recently acquired by the Kaiser-Frazer Corp.

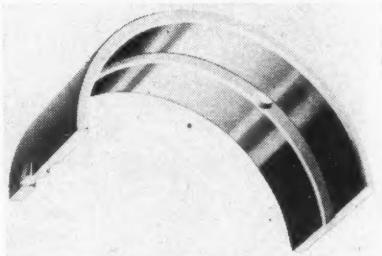
With headquarters at Charlotte, Mr.

Fitzgerald will supervise distribution of the Graham-Paige "Frazer" in North and South Carolina. The company has announced that it expects to reach volume production of the new medium-priced car by early 1946.

## Durex-100 Bearings in Production for New Cars

A peace-time product developed just previous to the war and catapulted into the war picture because of its remarkable durability, Durex-100 Engine Bearings, will be produced in quantities for motor cars and trucks by the Moraine Products Division of General Motors.

Durex-100 Bearings, produced especially for the main and connecting rods of internal combustion engines, are said to have made a spectacular record in the short time they were on the market previous to the war. These bearings enable automotive engineers to design engines operating at high unit bearing pressures.



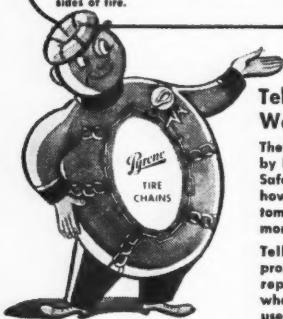
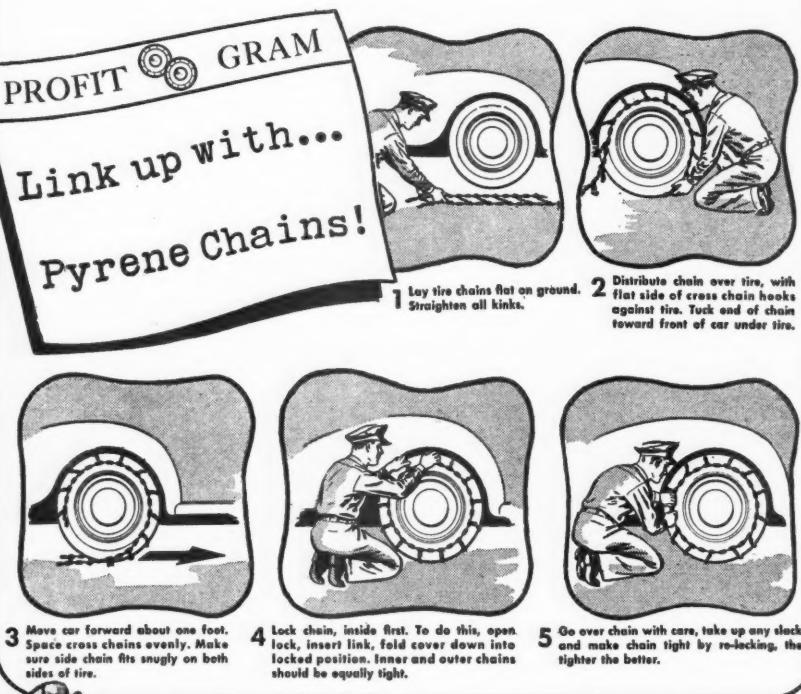
The bearings came to the attention of the Army and Navy Ordnance because of their durability. During the war, they were used on trucks, tanks, ducks, crash fire pumbers, track-laying prime movers and auxiliary power plants on the B-29 Super Fortress. They were used on both gasoline and Diesel Engines.

Powder metallurgy technique formed the basis for producing the Durex-100 Bearing. It is essentially a steel-backed lead base babbitt lined bearing. There is, however, an additional intermediate layer of a metallic sponge-like structure, or matrix, copper brazed to the steel back into which the babbitt is cast. This babbitt, which was specifically developed for this bearing, is a corrosion resistant high-lead alloy.

The combination of this babbitt alloy with the "sintered" matrix produces a bearing, it is claimed, having advantages that are not obtainable in other types of bearings. Some of the advantages, it is pointed out, are high conformability, high imbedability, greater resistance to fatigue cracking, high resistance to corrosion, and a higher melting point.

These bearings will be used on a number of forthcoming popular motor cars and trucks.

### \* YOUR PROFIT-GRAM FROM SAFETY SAM \*



#### Tell your customers the Right Way to use Tire Chains.

They can add miles of use to Tire Chains by knowing how to use chains properly. Safety Sam gives five simple rules about how to put on chains. Be sure your customers see them; it means good will and more business for you.

Tell your customers to repair chains promptly with Pyrene cross chains and repair parts; tell them to replace only when absolutely necessary and then to use Pyrene Chains.

The Safety Sam Window Streamer brings customers into your store; the Safety Sam chain chart makes sales for you. Be sure you have them both.

Sell Pyrene DOUBLEDUTY BAR-REINFORCED CHAINS —more than double wear, slightly higher cost.

## Pyrene Manufacturing Company



NEWARK 8

Makers of Pyrene Fire Extinguishers

NEW JERSEY

Affiliated with C-O-Two Fire Equipment Co.

# why RAYON has a big future

in Natural and Synthetic Rubber Tires

## The Best for Uncle Sam

Scientists demonstrated it and the war proved it: rayon makes a tire of natural rubber, *better*, and a satisfactory heavy-duty tire of synthetic rubber *possible*. By using rayon in tire construction, tires are made lighter and safer; run cooler and longer. That's why Uncle Sam tagged rayon for military service. That's why rayon for tires is here to stay, no matter what kind of rubber the future holds for tires.



## Microscopically Speaking

Your naked eye won't show you the advantages of rayon over natural fibers. There are two ways to prove it; one's by rolling on rayon—the other's by the magic eye of the microscope. Here's what it shows:

Rayon Fibers are Solid



Natural Fibers are Tubular



Rayon Fibers are Regular



Natural Fibers Twist and Curl



Rayon Fibers are Continuous



Natural Fibers are Short—Vary in Length

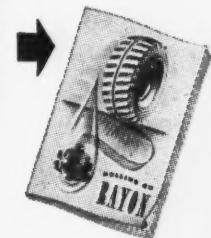


These differences in cross-section, shape and length are what give rayon its greater strength per unit of weight.

## On the Up and Up

So important is strength in tire yarn, that Industrial Rayon takes special pains to preserve it. Only Tyron, Industrial's tire cord, is made by the "up-twisting" method instead of conventional "down-twisting". Thus the yarn is subjected to less abrasion and all of its original strength can be retained.

**Free** "Rolling on Rayon." Send for this new booklet on rayon for tires. It contains all the facts you'll want to know. Address Industrial Rayon Corp., Cleveland 1, Ohio.



\* **TYRON** rayon for tires

\*Reg. U. S. Pat. Off.

Made by INDUSTRIAL RAYON CORPORATION  
Cleveland, Ohio

## Woman Studies Service Management

Any one who thinks that the automotive business, particularly the job of selling and servicing trucks, is a man's world should meet Mildred Sandvig of Prosser, Washington, who knows the carburetors and crankshafts in the back shop as well as the new trucks and customers out front.

Miss Sandvig, who has the singular honor of being the only woman to date to enroll in the Dealer Service Managers Training Course at the General

Motors Institute in Flint, Michigan, takes a very active part with her brother in the management of the Sandvig Motor Company, sales and service headquarters for GMC trucks in Prosser.

Competing with thirty-four dealer service men who took the course with her, Miss Sandvig asked no favors and kept up with the rest of the class throughout the entire schedule, according to the instructors.

When asked what prompted her to take the course Miss Sandvig stated, "My brother and I alternate in the

various duties of operating our business, and I realized that I must know the problems of service management and how to solve them in our own shop. Selling a good product is only half the job—seeing that the customer gets satisfactory service is the most important thing from a goodwill standpoint," she added.

Miss Sandvig's father established the dealership in Prosser, a Yakima Valley city of 2,000 population, in 1930. Following his death, she and her brother have continued the business as a partnership.

## West Coast Station Launches Safety Drive

A peacetime Home Front safety campaign has been organized and launched by Walter and Frank Muller, of the Muller Bros. Service station at Hollywood, Calif., it was announced recently.

Having received the endorsement by civic and business leaders throughout California, Muller Bros. have started the plan by mailing large broadsides and folders to California community organizations, car dealers, and other interested groups. In addition, the establishment runs notices of the campaign in their ads in local papers.

The campaign which was started as a state project is attracting national attention, it was reported.

## Ford Motor Steps Up Expansion Program

Ford Motor Co. is stepping up its postwar expansion program by \$25 million over the previously announced figure of \$150 million, according to J. R. Davis, director of sales and advertising. Latest addition to the program is construction of a new parts depot at Denver, Colo., to supply a complete line of Ford passenger and truck parts to dealers in the Denver territory. Construction will begin in a few weeks. Parts depots also are being built at Houston, Texas, Seattle, Wash., and Des Moines, Ia.

## Returns to Post At Puritan Company

Lieut. Comdr. Alexander Beach has returned to his office of president and treasurer of Puritan Co., Inc., manufacturers of automotive and aeronautical service chemicals after approximately three and one-half years of service in the U. S. Naval Reserve.

Mr. Beach joined the Navy shortly after Pearl Harbor with a year's service in combat areas.

For the past two years he was executive officer of the Carrier Aircraft Service Unit located at the Naval Air Station, Wildwood, New Jersey.

Enjoy increased sales and greater profits with **Shurhit** IGNITION PARTS ASSORTMENT

★ Extra Quality Extra Value ★

**Shurhit** DEPENDABLE IGNITION REPAIR PARTS

The advertisement shows a photograph of a Shurhit Ignition Parts Assortment cabinet. The cabinet is open, revealing various ignition repair parts packed in individual boxes. The top of the cabinet has a label that reads "Shurhit DEPENDABLE IGNITION REPAIR PARTS". Inside, there are several compartments labeled with part names like "DISTRIBUTOR ROTORS", "CONDENSERS", "BRUSHES", "CAPS", and "COILS". Several small boxes are visible, some labeled "Shurhit" and others with part numbers like "No. 4000" and "No. 11".

Satisfactory performance under unusually severe service conditions has repeatedly proved that Shurhit Ignition Repair Parts have that "extra" something.

The Shurhit General Assortment No. 4000, shown above, contains 13 sets of contact points, 12 dis-

tributor rotors, 16 condensers, 11 sets of brushes, 6 distributor caps and 4 coils and brackets. Cabinet is made of steel and finished in a lustrous green.

For details on No. 4000 and other Shurhit Ignition Assortments, ask your Shurhit jobber, or write us

**SHURHIT PRODUCTS, INC.**  
WAUKEGAN, ILLINOIS

# He has colossal buying power



**W**HILE the war was on, the American Farmer couldn't buy as much automotive equipment as he'd like—but he could buy bonds.

He has some \$4,500,000,000 of them in his safe deposit box right now, doesn't need to cash them, either, for his other savings come to \$11,500,000,000. And last year, with aging machinery and not enough help, he produced enough to help himself gross nearly \$28,000,000,000.

It is smart to remind ourselves what an economic giant the American Farmer really is. For, right now, he's in the market with heavy buying on his mind. The Dept. of Agriculture says, for instance, that under fairly favorable conditions he'll buy some 200,000 tractors a year, and a billion dollars' worth of trucks and cars.

Colossal automotive market just ahead, created from the needs of farmers! They'll look for buying help from the advertising in their favorite magazine. **Country Gentleman!** The farm magazine that's overwhelmingly the pick of jobbers, coast to coast, for selling effectiveness. The farm magazine that's always been 1st choice of automotive advertisers. During the last five years, for example, the auto, truck, tire and accessories industries, combined, invested 37% more advertising dollars in **Country Gentleman** than in any other rural magazine.

Be sure that **Country Gentleman's** selling power is working for you, in the competitive days ahead.



## What business can ignore the farmer's strength?

## Skinner Named Manager Of Lincoln Division

Paving the way for expanded post-war manufacture and sale of Lincoln automobiles, Henry Ford II, president of the Ford Motor Co., has announced appointment of Thomas W. Skinner as general manager of the Lincoln Division.

Eventually all phases of Lincoln operations will be directed from the Lincoln plant at Warren and Livernois, in Detroit, Mr. Ford stated. In the past, the Lincoln plant has been

devoted exclusively to manufacturing operations.

Mr. Skinner, who has been assistant director of sales and advertising of the Ford Motor Company, under J. R. Davis, has been with Ford since 1925.

Frank J. Denney, who has been advertising manager for Lincoln and Mercury, will serve as sales manager in the new Lincoln organization. Mr. Denney has had many years of experience in the automotive sales and advertising field.

Special engineers are being assigned to the Lincoln Division, accord-

ing to R. H. McCarroll, Ford executive engineer. They will work under the Ford Motor Company central engineering staff.

Rounding out the new Lincoln organization, M. L. Bricker, Ford production chief, has announced that J. M. Waggoner, Lincoln Plant superintendent, will continue as general superintendent of Lincoln production.

Clyde R. Paton, prominent automotive and aeronautical engineer, has been named a consulting engineer R. H. McCarroll, executive engineer, announced.

Postwar sales plans for the Lincoln Division, according to Mr. Davis, call for a greatly expanded line of Lincoln cars. An exclusive dealer organization is being established to merchandise these products.

For the first time in the history of the company, Lincolns will be assembled outside the Detroit area—in two new plants, one on the East Coast and one in California.

The Eastern plant will be located on a 78-acre tract of land in Raritan township, New Jersey, 30 miles southwest of Manhattan.

## New President at General Armature Corp.

A. C. DeAngelis, the new president of General Armature Corp. of Pennsylvania, at Lock Haven, Pa., who, for many years had been associated with the Friez Instrument Division of Bendix at Towson, Md., recently resigned his position there as general manager of the company to become associated with the General Armature Corp.

A graduate of the Stevens Institute of Technology, Mr. DeAngelis proposes to materially expand the company's activities into other kindred lines of manufacturing.

## Production Increased on Rayon Cord Body Tires

Production of tires made with rayon cord bodies has been greatly increased in all tire plants of The Firestone Tire and Rubber Co. according to H. D. Tompkins, vice-president in charge of sales.

"Before the war, Rayon was used in the bodies of Firestone Imperial tires and in a complete line of truck tires," said Mr. Tompkins. "During the war nearly all tires used by the armed forces were made with rayon cord bodies because of the cool-running advantages of rayon. Today, we are continuing to make tires of these types with rayon cord and we are planning to use it in still more types of tires when present government restrictions are lifted and when adequate supplies of rayon become available."



### United Parts Meet Every Need for These Four Money-Making Services!

- **For Hydraulic Brake Service**—A full line of Kits . . . Master Cylinder Kits with pistons . . . A complete line of individual parts, of course.
- **For Brake Cable Service**—A complete line of the famous FLEXITE cables to fit all cars.
- **For Speedometer Service**—United's "Necessary Nine" universal assemblies handle 95% of all jobs.
- **For Fuel Pump Service**—Diaphragm or Pump Repair Kits for all cars and trucks.
- **You'll get quick service** on all four of these skillfully engineered, precision made, United lines from your nearby NAPA jobber! United Parts Mfg. Co., 1250 W. Van Buren Street, Chicago 8, Illinois.



# UNITED PARTS

HYDRAULIC BRAKE PARTS • BRAKE CABLES  
SPEEDOMETER CABLES & CASINGS • FUEL & VACUUM PUMP PARTS





"I have been operating this station on Highway 1 for about 12 years. If I stocked all the types and sizes of fuel pumps that drivers have asked for, I'd have to build a small warehouse for fuel pumps alone and tie up a lot of money in inventory. Couldn't do that.

"That's why I took on Autopulse. In single or multiple units (units are all the same), I can equip any passenger car, truck, bus, or tractor, regardless of size or horsepower, with a new fuel pump in just a few minutes. And my whole inventory can be tucked away in one corner. I never have to disappoint a customer and I've never had a complaint on Autopulse performance."

It's the easy way of handling fuel pump trouble and it also seems to be the best.

Write for details on the Autopulse Plan.

Write us direct for quotation

**AUTOPULSE** Corporation

2821 Brooklyn Ave., Detroit 1, Michigan

*Here it is...*

Ditzler's famous QDE (now DQE) enamel is again available—pre-war quality and better—Famous for easy workability, quick setting, high lustre, excellent adhesion, and outstanding durability. Ditzler Color Division, Pittsburgh Plate Glass Company, 8000 W. Chicago Ave., Detroit 4, Michigan.



# There's no question about it...



These United Motors lines really "hit the pocket" when it comes to building and expanding your service business. They give you the parts and products used as original equipment in America's leading cars . . . parts and products that are in *constant demand* to maintain efficient car performance. Take on these United Motors lines—the "class of the league"—and boost your average in good will and profits. See your United Motors distributor, or write us direct.

Returning veterans: Write today for information regarding a profitable service business of your own. A United Motors franchise will pave the way.

**THEY FINISHED THEIR JOB—LET'S FINISH OURS!**  
**BUY VICTORY BONDS**

**UNITED MOTORS SERVICE**

DIVISION OF GENERAL MOTORS CORPORATION  
GENERAL MOTORS BUILDING, DETROIT 2, MICHIGAN

NOVEMBER, 1945

When writing to advertisers please mention Motor Age

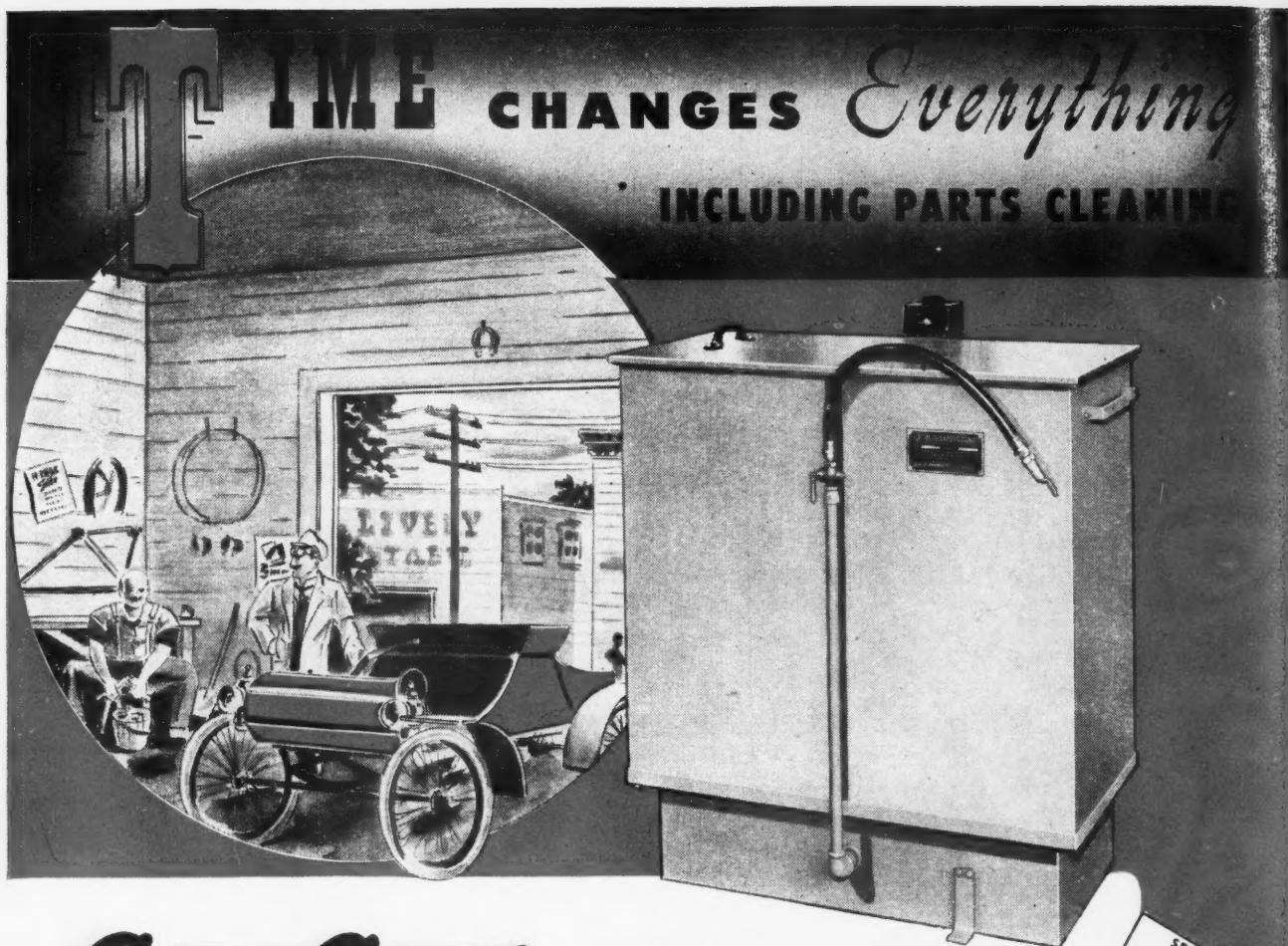
You'll Really  
Score

**With These  
UNITED MOTORS  
LINES**

- DELCO Batteries**
- INLITE Brake Lining**
- DELCO Radio Parts**
- HYATT Roller Bearings**
- DELCO Auto Radios**
- HARRISON Heaters**
- DELCO-REMY Starting,  
Lighting and Ignition**
- NEW DEPARTURE  
Ball Bearings**
- DELCO Shock Absorbers**
- HARRISON Thermostats**
- GUIDE Lamps**
- AC Fuel Pumps, Gauges  
and Speedometers**
- KLAXON Horns**
- DELCO Home Radios**
- HARRISON Radiators**
- DELCO Hydraulic Brakes**

Available everywhere through  
United Motors distributors





## *Circo Chief* DEGREASER CLEANS PARTS AUTOMATICALLY

Time makes great changes and speeds up the tempo of everything including parts cleaning because conditions demand it. Bucket and brush parts cleaning methods were all right back in the horseless carriage days but certainly not today because they are too slow, inefficient and costly in time, labor and materials. The new, modern, streamlined Circo "Chief" degreaser advances parts cleaning far ahead of the times, cleaning and drying parts in minutes as compared with hours usually taken by other methods. The Circo "Chief" will actually vapor clean and dry dirty, greasy parts in three minutes.

The forerunner of profitable repair work is clean, dry parts and no other unit or method will accomplish this as quickly, easily, economically and thoroughly as Circo "Chief" degreaser.

Circo "Chief" is versatile and incomparably better, in that it cleans parts five different ways: vapor cleaning (automatic), drying (automatic), spraying (automatic), dipping and soaking. If you employ two or more mechanics, you can use a Circo "Chief" degreaser advantageously because it relieves your mechanics of a dirty, laborious job, keeps them at their own profitable repair work, cuts cleaning costs away down, eliminates bottlenecks in repair work, due to hours wasted in parts cleaning and greatly increases production.

Send today for free literature, which gives detailed information on the Circo line.

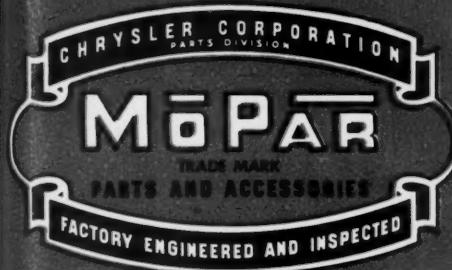
**CIRCO PRODUCTS  
COMPANY**

2835 CHESTER AVENUE  
CLEVELAND 14, OHIO

5  
CLEANING  
METHODS  
IN ONE  
UNIT



# Build Customer Good Will



Install

# MOPAR MUFFLERS



Designed by  
Chrysler  
Corporation  
Engineers

## FEATURES THAT SATISFY:

### 1. Long Life

Rugged, leakproof construction assures long, safe and dependable service.

### 2. Peak Engine Performance

Large passages permit free flow of exhaust gases, resulting in minimum back pressure.

### 3. Maximum Silence

Throat is scientifically designed to eliminate objectionable noises.

### 4. Fit Correctly— Install Easily

Designed to vehicle specifications, they fit correctly and install easily.

BUY VICTORY BONDS

Mopar Mufflers are engineered to meet the exact requirements of the particular engines for which they are recommended, ensuring peak performance.

#### NOTE TO ALL REPAIR SHOPS

If you need parts for a Plymouth, Dodge, DeSoto, or Chrysler, obtain them from a dealer for these cars. For Dodge truck parts, see a Dodge dealer.

for  
**Plymouth**

**DODGE**

**DeSoto**

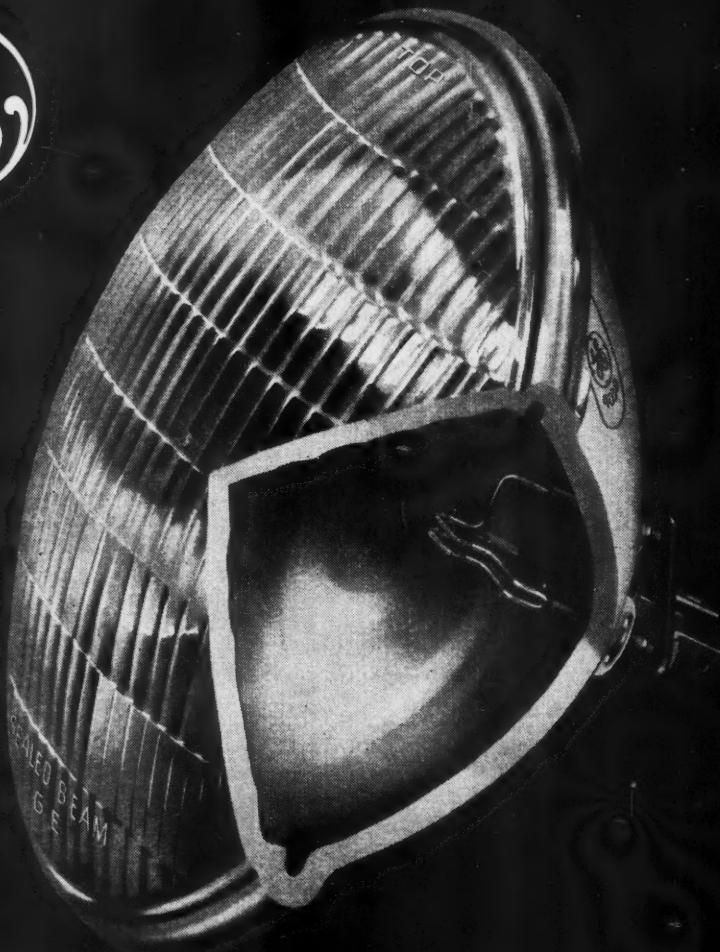
**CHRYSLER**

**DODGE Job-Rated TRUCKS**

REMEMBER THURSDAY NIGHT! The Music of Andre Kostelanetz and the musical world's most popular stars—Thursdays, C.B.S., 9 P.M., E.T.

CHRYSLER CORPORATION—PARTS DIVISION, DETROIT 31, MICHIGAN

It is absolutely impossible for moisture,  
air and dirt to get into hermetically-sealed  
General Electric Sealed Beam Lamps...  
*they do not grow dim!*



G-E ALL-GLASS SEALED BEAM LAMPS  
**GENERAL** **ELECTRIC**

★ T H E L E A D E R M U S T L E A D ★

# Raybestos Leads to Bigger Replacement Business

**It's the biggest challenge yet!** Soon you'll have both the car-of-the-future and the car-of-the-past in your hands. You'll service them both . . . you'll depend on both for bigger, better business.

As always, Raybestos will be your leader in friction materials. Raybestos is ready with the right answer to any problem—new car or old, big job or small.

From the war has come a host of new and improved products—a whole decade of development telescoped into a few brief years.

You'll see these new developments unfolding as the need for them arises. And with them, you'll see new evidence of Raybestos leadership.

**THE RAYBESTOS DIVISION of Raybestos-Manhattan, Inc.  
BRIDGEPORT, CONNECTICUT**



The Raybestos logo consists of a stylized graphic of an eagle's wing on the left, followed by the word "Raybestos" in a bold, italicized serif font.

AMERICA'S BIGGEST SELLING  
**BRAKE LINING**

BRAKE LININGS • BRAKE BLOCKS • CLUTCH FACINGS • FAN BELTS • HOSE  
FOR TRUCKS, CARS, BUSES, TRACTORS



ARVIN Big Flo MEANS  
QUICK CAR COMFORT  
WITH FREE HOT WATER



ARVIN Big Flo MEANS  
FAST HEAT CIRCULATION  
ALL THROUGH YOUR CAR



ARVIN Big Flo MEANS  
WINDSHIELD DEFROSTING  
FOR SAFER DRIVING



ARVIN Big Flo MEANS  
EFFICIENT FINGER-TIP  
HEAT CONTROL



It's the rapid circulation of heat—the large air flow over a large heating surface—that warms everyone in your car so quickly and so pleasantly, when you have an Arvin Big Flo Car Heater.

This big and speedy flow of heat brings real comfort to you and your family—for any drive in any weather. And for safer drives, your Arvin fan-forces a big volume of heated air to the windshield when desired—to keep it clear of blinding steam, ice and snow.

The dependability and high efficiency of the Arvin car heating principle—using free hot water from the normal operation of the engine—has been approved by automotive engineers and millions of car owners. Time-tested and improved over fifteen years—more Arvins have been sold than any other car heater.

Installed in your present car now, your Arvin may be quickly transferred to the new car you buy. This car heater is engineered and built to serve you long and well. Garages, accessory stores and service stations everywhere are now installing the new Arvin Big Flo Car Heaters. Ask to see the Arvin Big Flo Special—the biggest and most powerful Arvin. Two other splendid models—priced as low as . . . . . \$1050

Tax Included

ARVIN is the name on Products of Experience Coming From  
NOBLITT-SPARKS INDUSTRIES, INC., Columbus, Indiana

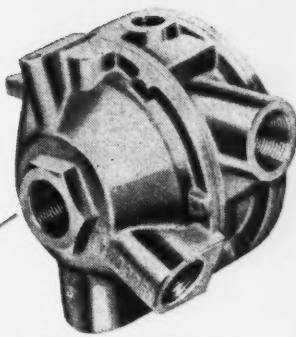
**ARVIN** *Famili* *Re*

To bring you Arvin customers . . . and help you sell the new Arvin Big Flo Car Heaters you've ordered from your jobber . . . Arvin advertisements are appearing in December issues of leading national magazines such as The Saturday Evening Post, Collier's, Country Gentleman and Successful Farming . . . advertisements like the one shown in reduced size above. You're lined up for fast sales with ARVIN . . . backed by aggressive advertising and "point-of-sale" helps that mean profit for you.

**NOBLITT-SPARKS INDUSTRIES, Inc., COLUMBUS, INDIANA**

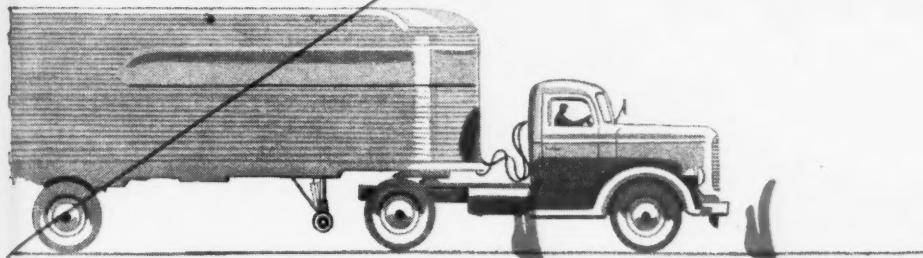
ARVIN Car Heater Division

*THE FASTEST*



*The S.C.V. Valve—  
a new B-K Product*

# Trailer Relay Valve on the market



—brings synchronized stopping to both tractor and trailer

Your trailer will stop just as quickly as the tractor if your trailer is equipped with a Bendix\* Trailer Relay Valve.

A new and improved unit in the famous line of B-K\* power-braking devices this new relay valve is recognized as the fastest operating valve on the market. Its unmatched speed of trailer brake application is achieved by large ports and perfectly graduated control.

There is no longer any reason for the trailer brakes not doing their share of the work—they can do their job efficiently and quickly with a Bendix Trailer Relay Valve. For further information about the relay valve and other important B-K power-braking units see your B-K dealer or write the factory direct. • BENDIX PRODUCTS DIVISION • SOUTH BEND 20, INDIANA

\*REG. U.S. PAT. OFF.



## The Ideal Trailer Power-Brake System for HYDROVAC equipped tractors

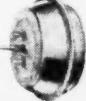


**AIR CLEANER**—Keeps  
dirt, dust and water out of  
relay valve.



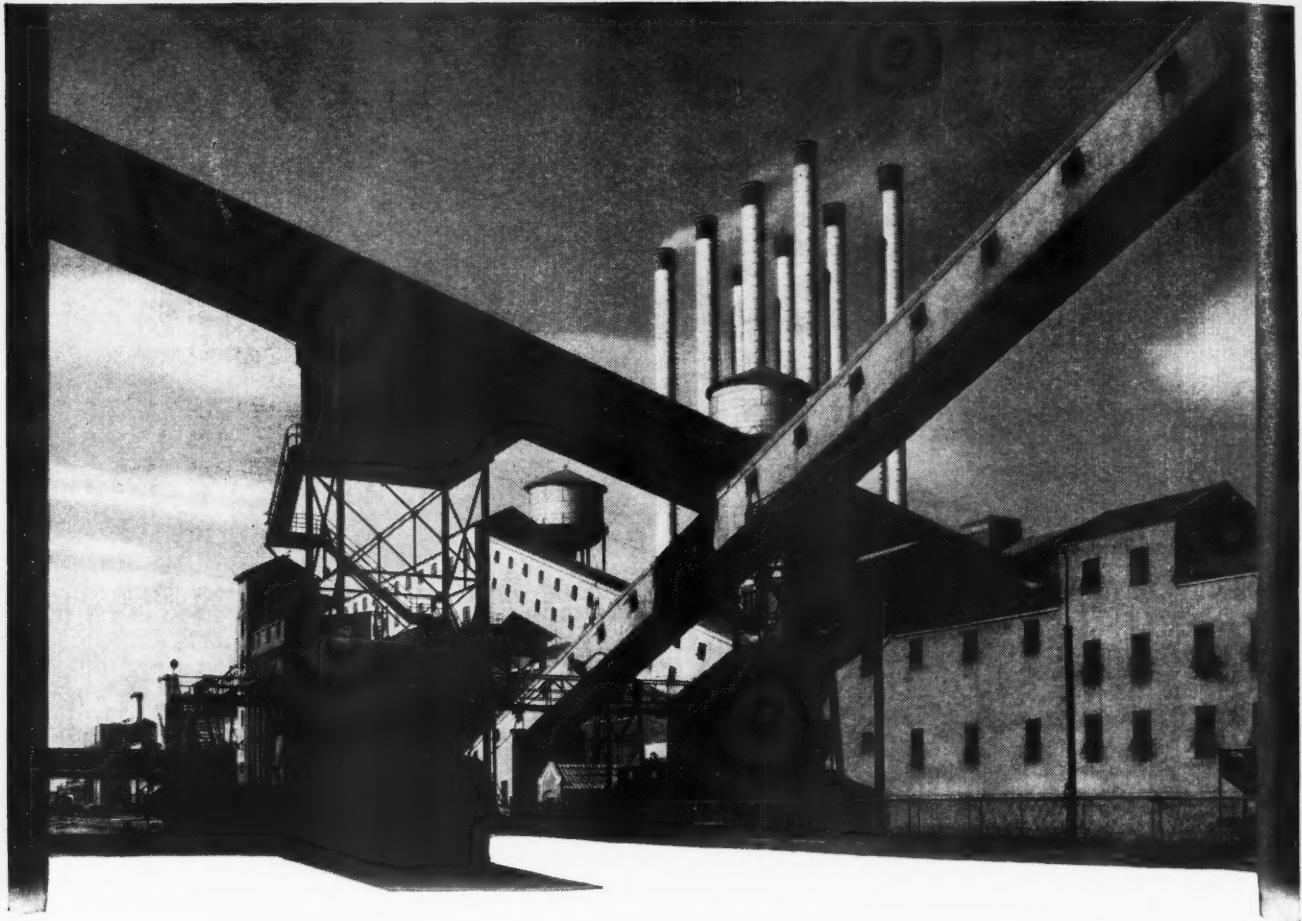
**VACUUM RESERVOIR**—Built to take the hardest  
kind of usage over the years.

**POWER CHAMBER**  
—A rugged diaphragm-type power chamber  
requiring no lubrication or maintenance.



**EMERGENCY CHECK VALVE**  
—Snaps shut when the connecting  
hose is broken. Trailer brakes  
automatically applied in the event  
of a break away.

**Bendix B-K**  
**POWER BRAKING**  
—for every Truck, Tractor and Trailer



# "Open House" AT THE ROUGE

The next time you come to Detroit, make it a point to take a sight-seeing trip through the huge Ford Plant on the River Rouge in Dearborn. It is one of the modern wonders of the industrial world.

Now that the war is over, we are again admitting visitors, and have arranged complete daily tours of the plant, Mondays

through Fridays. There are two tours in the morning at 9 and 11; two in the afternoon, at 1 and 3.

To arrange a tour, simply come out to the Ford Rotunda in Dearborn and we'll take care of your party. Pay us a visit on your next trip to Detroit. We know you'll enjoy it, and we'd like very much to show you around.

F O R D M O T O R C O M P A N Y



MORE THAN 31,000,000 FORD, MERCURY AND LINCOLN CARS—AND FORD TRUCKS—HAVE BEEN BUILT

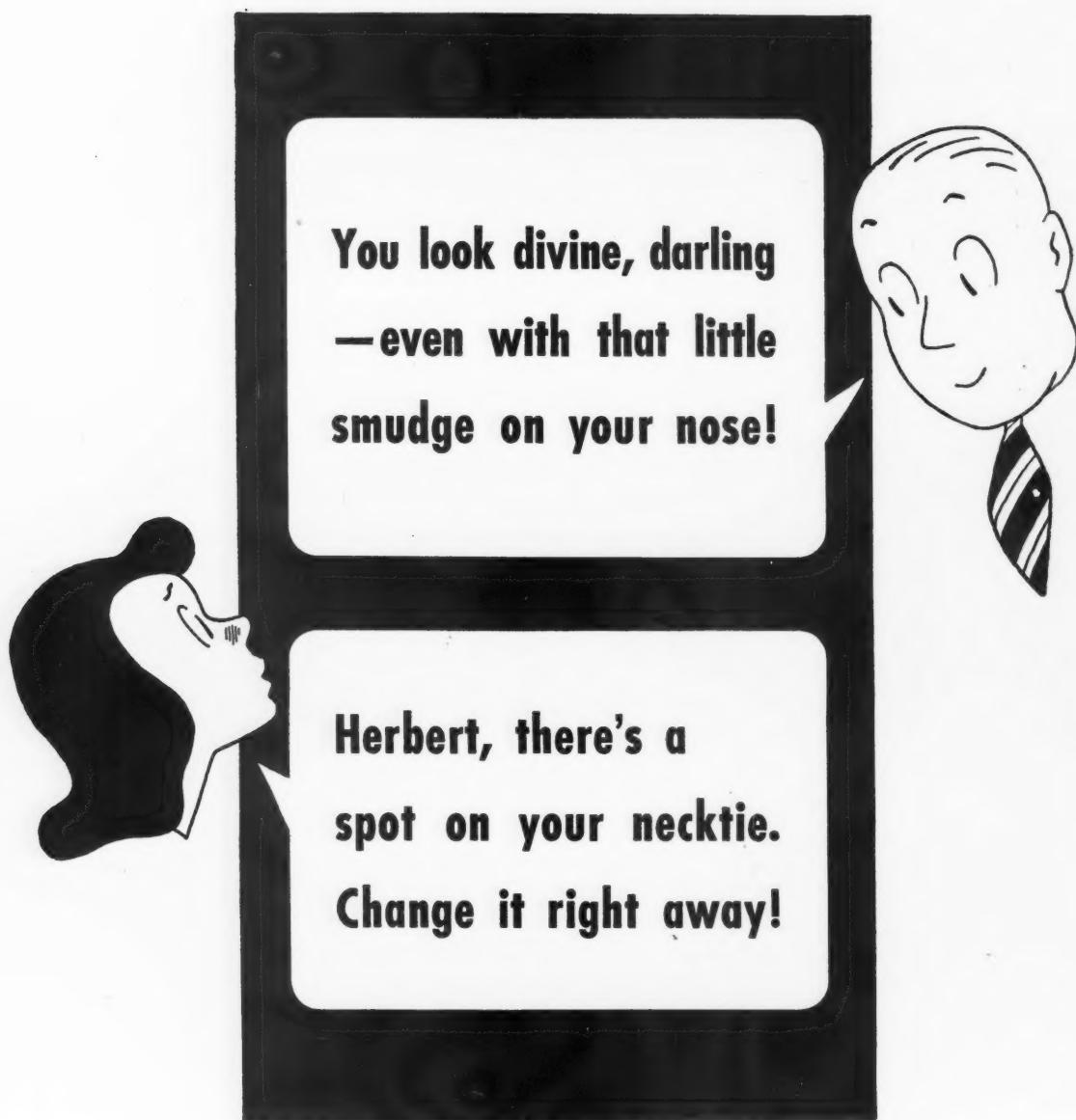


#### THE NEW BLACK ARROW LINE

of Gas Cutting and Welding Apparatus. Black Arrow is the new, packaged line of high quality, precision-built Gas Cutting and Welding Apparatus—specially designed for automotive work. Products range from complete outfits through a broad selection of torches, tips, regulators, accessories and supplies.

You'll hear more about Black Arrow  
from your jobber—soon.





**YES!** Women are perfectionists more often than men—and exacting in their demands for handsome and practical appointments for the new family car.

-----

LADIES' HOME *Journal*

-----

*Is there  
any hope?*

*"Well, she's pretty old and run down. Valves  
are leakin'. Blood pressure's way down, and  
she's got a touch of asthma. It will take a  
major operation to give her a new lease on life."*

**Patchwork Pete**

MOST cars today are middle-aged. Others are old, under ordinary conditions they would go quickly and permanently into retirement.

But these aging cars must be kept in service, until the new generation of cars grows to the point it can take over.

That will be quite a few years, even after the green light is given the automotive industry.

Miracles can be done—are being done to rejuvenate old cars. New Thompson valve assemblies with valve seat inserts, guides and

springs—piston assemblies with new rings, bearings and con-rod exchange, together with cylinder reborning and crankshaft metallizing and grinding put new pep and power into an old engine.

Thompson also is doing a good job on making chassis replacement parts available for nearly every make and model of car still on the road.

*With new Thompson Parts, and the modern machine shop facilities offered by TP Jobbers, the average mechanic can confidently undertake major operations to "keep 'em rolling".*

*Keep Close  
to Your*

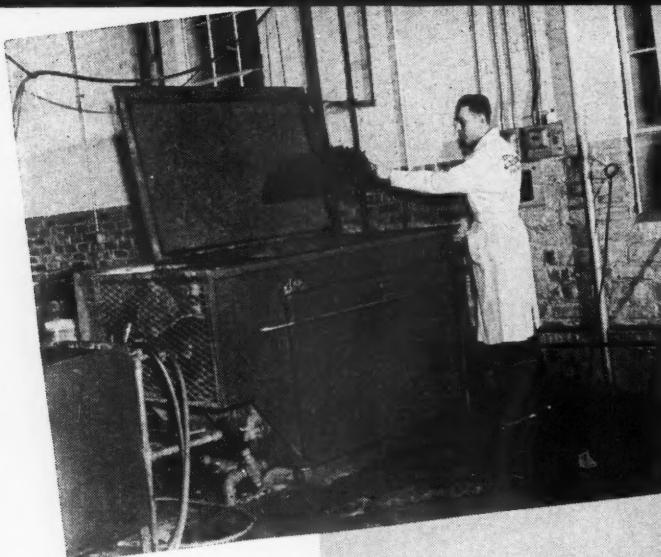
**Thompson**

CLEVELAND • DETROIT • LOS ANGELES



**Products** *Jobber*

## PUT Speed IN YOUR MOTOR BLOCK CLEANING!



### And Get Better Cleaning WITH NEXT TO NO HAND BRUSHING!

Cleaning motor blocks (including diesels) calls for something more than the soaking action of an active cleaner if you expect any kind of speed in cleaning and want to avoid a lot of hand work. You need really effective agitation—much more than you can possibly get by boiling or by the use of air.

The unique agitation provided by the

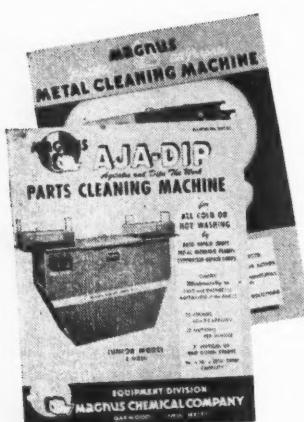
#### Magnus Aja-Dip Cleaning Machine (Patented)

makes cleaning so speedy and so thorough. By moving the work up and down IN the cleaning solution many times a minute, a vigorous "shearing" contact of the solution with all surfaces of the block is provided, which insures complete removal of dirt in a surprisingly short time.

This machine is available in a wide range of sizes, including the Aja-Dip Junior Series for use in small service shops. It can be used with Magnus Heavy Duty Alkaline Cleaners or with Magnus 755, the new solvent cleaner which is doing such an outstanding job in cleaning aviation motors.

#### For Miscellaneous Parts, too!

Of course the Aja-Dip Machine can be used for carburetors, pumps, pistons and all dismantled motor parts. They can often be cleaned in baskets at the same time that a block or blocks are being cleaned.



WRITE FOR THESE TWO  
BULLETINS COVERING THE  
COMPLETE AJA-DIP LINE



MAGNUS CHEMICAL CO., 174 SOUTH AVE., GARWOOD, N. J.  
Automotive Cleaners & Machines

# The Program with a KICK!

... SELLS THE  
BATTERY WITH A KICK



#### RADIO COAST TO COAST

Action-getting spot radio commercials beamed directly to battery buyers in your territory—the most effective spot radio program in battery history!



#### SALES-BUILDING KITS

Colorful displays, window trims, novelties—all designed to help you build volume and profits right at the point of sale.



#### PREST-O-LITE PROFIT PLAN

Prest-O-Lite's Profit Plan is made-to-order for dealers who want to do more business—make more money. To cash in on Prest-O-Lite in 1945, see your jobber, or write to

**PREST-O-LITE BATTERY COMPANY, INC.**

INDIANAPOLIS 6

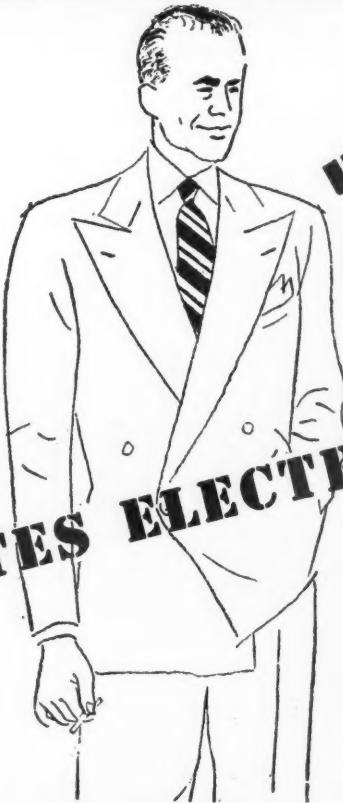
• INDIANA

# prest-o-lite

*Back in*

**UNITED STATES ELECTRICAL TOOLS**

*"Civvies"*



IT'S like saying "hello" to an old pal who's been hard to find for the past three or four years . . . and we appreciate your indulgence. But UNITED STATES ELECTRICAL TOOLS have been on the job for Uncle Sam . . . and now they're back working for the millions of his nephews who are on their toes and straining every muscle to turn out "the mostest and bestest for the leastest."



#### **PORABLE ELECTRIC SANDERS**

*Model HSHD7*

For production or maintenance. In metal finishing, removing scale and rust with wire brush, for smoothing welds and casting ridges with cup grinding wheel. Straight line ventilation to assure cool motor operation.

#### **SPECIAL AND HEAVY DUTY DRILLS**

*Model I2SP 1/2" Special  
Model I2HD 1/2" Heavy  
Duty*

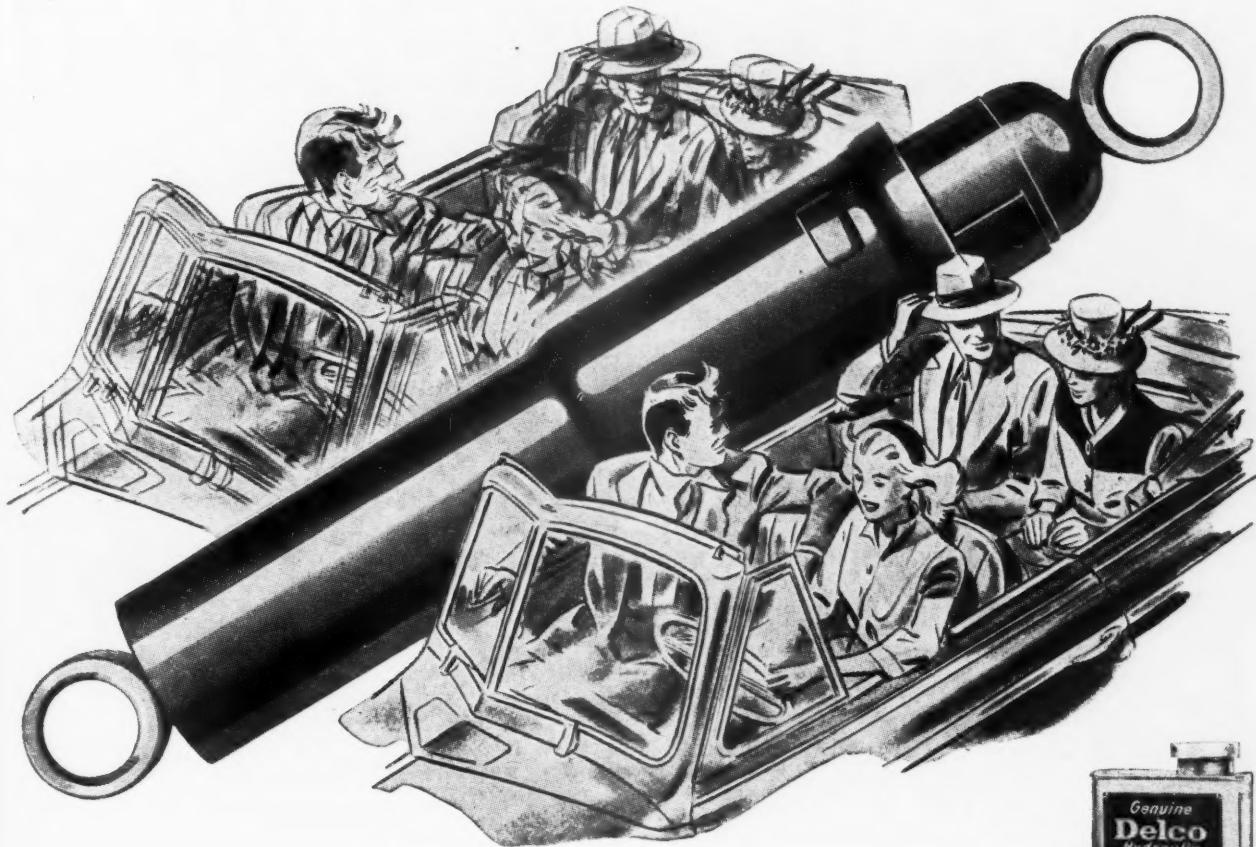
Ball bearings on armature. Chuck spindle mounted on two radial thrust ball bearings. Chrome nickel steel gears, heat treated, packed in grease and sealed.

*"Thanks a Million"*

And that's from the heart . . . you've been wonderful all through the war years. The UNITED STATES re-conversion program is complete and we're right back into production. SEND YOUR ORDERS . . . YOUR DISTRIBUTOR CAN TAKE CARE OF YOU.

# RESTORE THAT "Delco Ride"

*Satisfy Customers . . . Increase Profits*



Delco hydraulic shock absorbers give your customers that smooth, balanced, safe "Delco Ride" that makes driving so pleasurable, so comfortable. They lengthen the life of tires, help prevent spring breakage and make cars more easily managed.

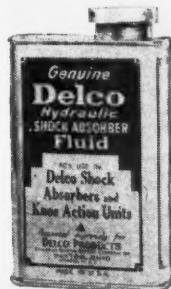
Two out of every three cars are equipped with Delco shock absorbers (total in use today: 65,000,000). Many of these shock absorbers are in need of immediate service. Check the shocks on every car that comes in for repairs or adjustments . . . and restore that gentle "Delco Ride."

If the shock absorbers are damaged beyond servicing, the Delco Shock Absorber Exchange Plan will enable you to replace with new Delcos. A liberal exchange plan makes the cost reasonable to your customers . . . and each new Delco carries the original-equipment guarantee.

Put the Delco Shock Absorber Exchange Plan to work for you. Your United Motors distributor will furnish you with full details.

**BUY VICTORY BONDS**

To keep shock absorbers at peak efficiency, refill with reliable Delco Shock Absorber Fluid when fresh fluid is required.



**DELCO**  
HYDRAULIC  
SHOCK ABSORBERS

Delco Products Division, General  
Motors Corporation, Dayton, Ohio

**DELCO SHOCK ABSORBERS**  
A UNITED MOTORS LINE

*Delco original-equipment service parts and products are sold through independent distributors served by 20 United Motors warehouses.*

# BUILD BUSINESS NOW... for Leaner Years Ahead!



**BOWES**  
**TIRE-SAVING**  
**REPAIRS**  
**make friends**  
**that will**  
**come back!**

● TIRES are just about the most precious property your customers own today. One poor repair on those priceless tires and the owner will remember you for a long time—*as a good guy to stay away from!*

BUT . . . if you give him GOOD, LASTING TIRE REPAIRS that keep his car running *now* when he can't get new tires, he will remember you always as a shop that took care of him when he needed help. Customers like that will be like money in the bank when YOU will be looking around for business—next year.

Bowes Equipment and Modern Methods will help you make friends of everybody that comes to you for tire repairs . . . AND . . . also give you a good profit NOW

With Bowes Equipment you can quickly and easily find hidden damage that would be overlooked by ordinary inspection methods. Small cuts, bruises and dry rot can be found and fixed BEFORE they ruin tires.

Bowes Equipment enables you to make SAFE REPAIRS that will LAST . . . on tubes and casings. This modern equipment requires little space, operates from standard electric current and is INEXPENSIVE. Bowes Modern Methods will help you save time, labor and materials and make MORE PROFIT on every repair.

NOW, while customers are eagerly seeking tire repair service that will keep them driving, make friends who will *keep on* coming back to your shop.

**BOWES**  
**SEAL**  
**FAST**

**TIRE SAVING SYSTEM**  
BOWES "SEAL FAST" CORPORATION, INDIANAPOLIS 7, INDIANA

● Take advantage of this profitable, business-building opportunity now—while new tires are still hard to get. A factory-trained BOWES DISTRIBUTOR will gladly call and tell you everything you want to know about Bowes specialized tire repair equipment and methods—without obligating you in any way. Drop us a postal today.

# "Best way to go places!"

**Dealers see winning combination in Hudson's 1946 product and 1946 program**

The hundreds of automobile dealers who have joined Hudson in recent months have done so for just one reason: They see in the Hudson product and Hudson program a combination that is sure to "go places."

Facts certainly justify that belief.

Of the 1946 Hudsons now rolling from our production lines, we get this word from every side: "You have given us far more in the way of fresh new styling, luxury and convenience than we had thought possible."

Along with these new cars, a complete, well

balanced program is also *on the move*. It is the product of more than two years of careful planning—tailored to the times. It includes factory co-operation, field personnel, advertising and merchandising that can help get *action* at the point of sale.

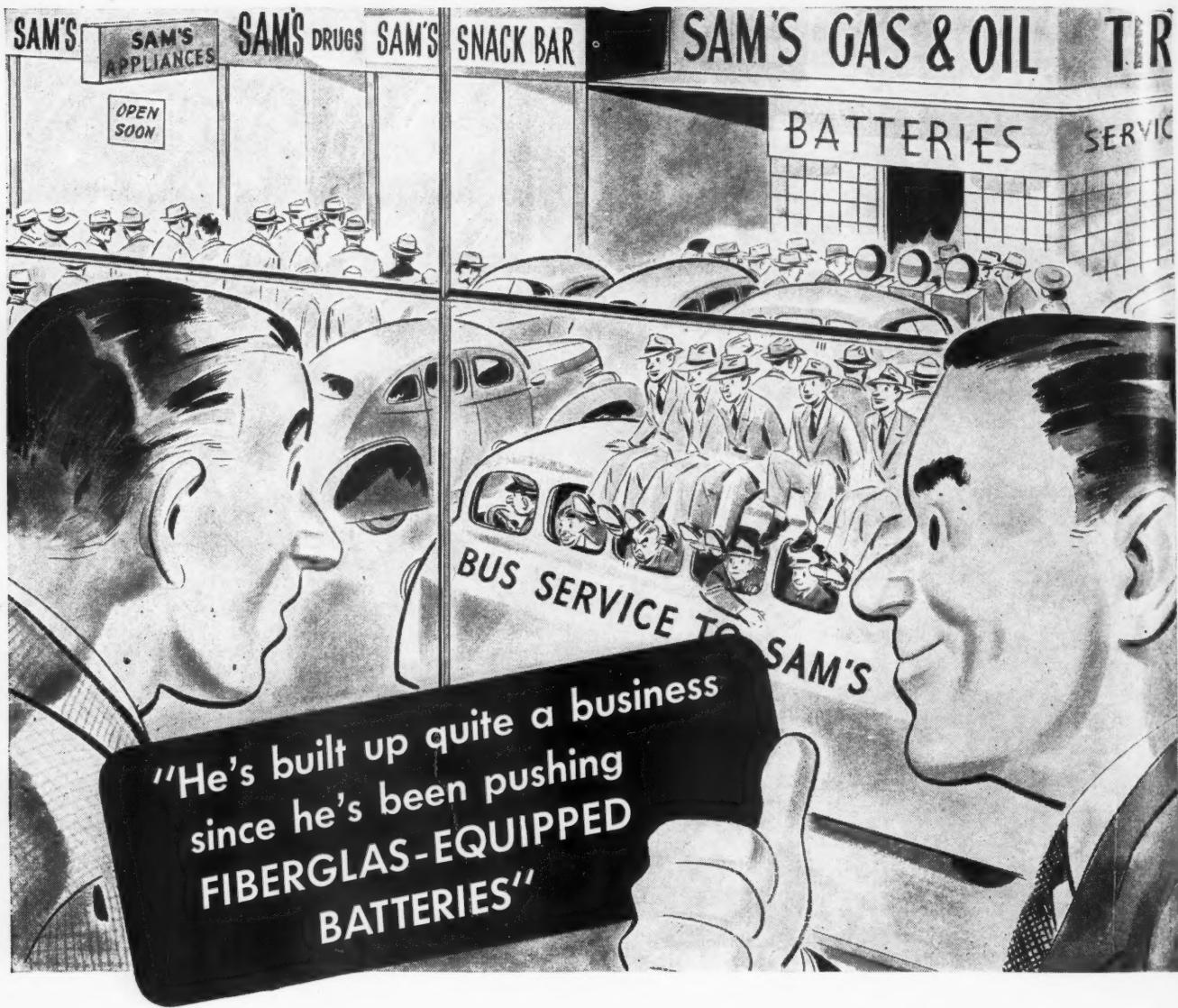
Add it all up! A *high quality* product. *High calibre* sales representation. A *highly effective*, long-range sales and advertising plan. All backed by modern plants which have in a single year produced more than 300,000 automobiles.

These are some of the reasons why Hudson will sell a substantially larger share of the total automobile market in the years to come.

**HUDSON**  
THE FINE CAR OF LOW PRICE



Offered in a Super Series and a distinguished Commodore Series—with choice, in either series, of the famous Super-Six and Super-Eight engines. Pictured here, the Commodore Sedan. Also rugged new  $\frac{3}{4}$ -ton Cab Pick-Up with famous 102 h.p. Super-Six engine.



**MR. HI-Q SAYS:**

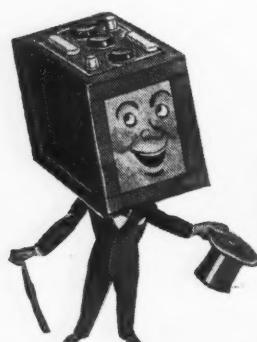
YOU'LL MAKE BETTER PROFITS  
WHEN YOU SELL BETTER  
BATTERIES,  
FIBERGLAS-EQUIPPED

Enterprising dealers are finding it "good business" to push their manufacturers' top-quality batteries. People like the longer, trouble-free service these batteries give. And they come back with increased confidence to buy other items.

Nearly all manufacturers put Fiberglas\* Retainer Mats in their best batteries. These mats retard shedding and hold the power-producing materials on plates longer. When you explain to customers how Fiberglas mats help batteries last up to twice as long, they willingly, cheerfully pay the difference. This means easier selling and extra dividends for you.

Ask your distributor about these better batteries. Why not contact him today? *Owens-Corning Fiberglas Corporation, 1971 Nicholas Building, Toledo 1, Ohio.*

In Canada, Fiberglas Canada Ltd., Oshawa, Ontario.



**FIBERGLAS**  
\*T. M. Reg. U. S. Pat. Off.  
**BATTERY RETAINER MATS**

*When writing to advertisers please mention Motor Age*

**MOTOR AGE**



● DEALERS desirous of handling Electric Sprayit Company products are asked to keep in touch with their Jobber regarding expected initial delivery date. JOBBERS who have not already placed their quantity commitments for SPRAYIT Paint Spraying Equipment are urged to do so immediately. Orders will be filled just as fast as production conditions permit, and in the order in which they are received.

**SPRAYIT**

PAINT SPRAYING EQUIPMENT,  
AIR COMPRESSORS, SPRAY GUNS,  
PUMPS, AIR TOOLS, INSECTICIDE  
SPRAYERS, SANDERS AND AL-  
LIED FINISHING EQUIPMENT.

**EISCo**

ELECTRIC MOTORS, GENERATORS,  
VALVES, PUMPS, HYDRAULIC  
CYLINDERS AND CONTROLS FOR  
AIRCRAFT, AUTOMOTIVE AND  
OTHER INDUSTRIAL APPLICATIONS

**EISCo**

**SPRAYIT**



## Who's got the edge on getting finished FIRST?

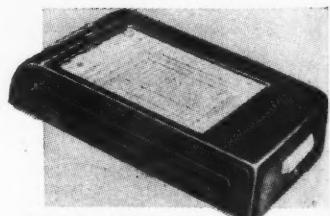
That's easy. The man who has no loose sheets — no carbon fuss to deal with. The man whose forms are all set for writing, and who by a simple twist of the wrist will complete his transaction. Here's convenience that means efficiency — UARCO Register convenience.

UARCO has a complete line of registers — a register to suit every record-writing need from purchasing orders to bills of lading. Forms,

**UNITED AUTOGRAPHIC REGISTER**

enough for a full day's use — usually more — are loaded at one time. The firm writing base plus an ever-fresh roll of carbon assures clean, legible copies. Also, if desired, registers that automatically file duplicate copies of every record written can be had.

Check UARCO's story today. A UARCO representative will be glad to show you their complete line of Registers free of charge. Or write today.  
**COMPANY • Chicago, Cleveland, Oakland**



*For Instance*

Here is one of UARCO's many Registers—the Featherweight. This register is suited for order writing in the field, for the taking of orders over the phone. It gives you all the register advantages you want in a small, compact case. For further details, write today.

• *Offices in All Principal Cities*

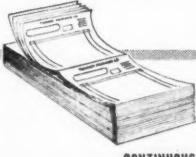


AUTOGRAPHIC REGISTERS

**UARCO**



SINGLE SET FORMS



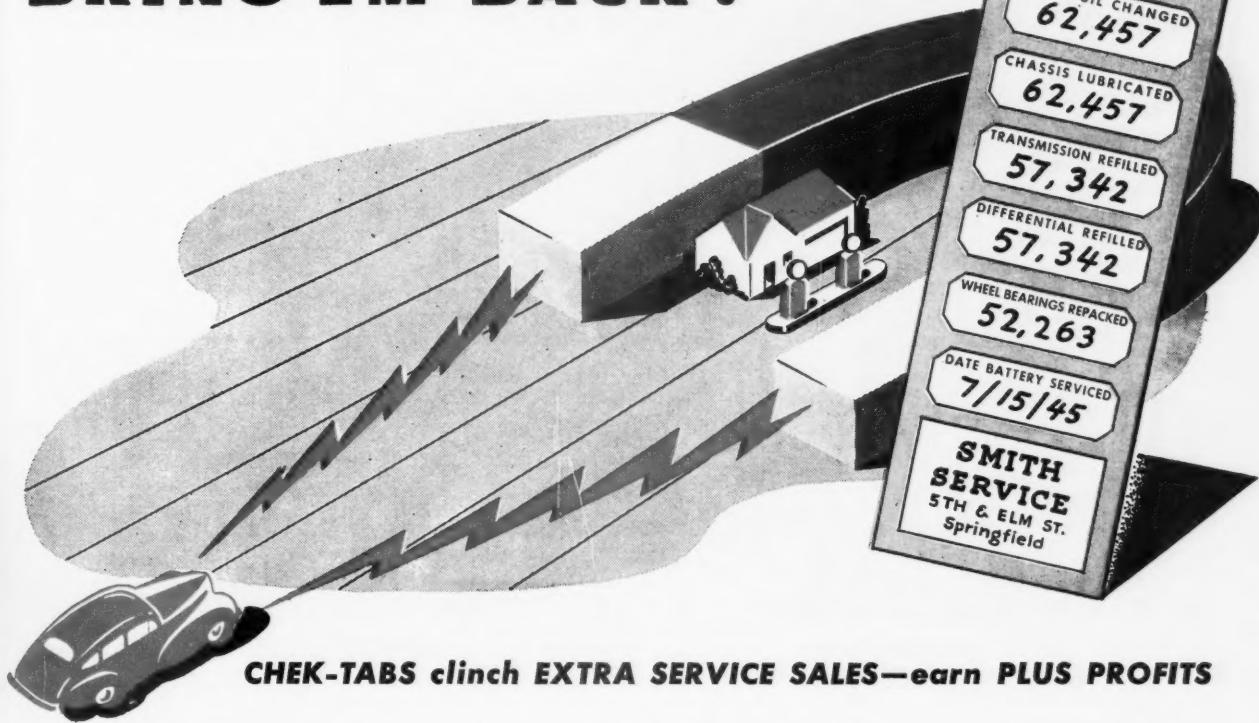
CONTINUOUS-STRIP FORMS FOR  
HANDWRITTEN TYPEWRITTEN • BUSINESS MACHINE RECORDS



**BETTER BUSINESS FORMS**

# Chek-Tabs

## BRING 'EM BACK!



**CHEK-TABS clinch EXTRA SERVICE SALES—earn PLUS PROFITS**

Yes—CHEK-TABS pull those first customers back into your driveway like a magnet. They build the kind of steady, dependable business that pays you your biggest profits. And, what's more, they flag down those extra service sales that the rule-of-thumb operator misses.

Every CHEK-TAB you use means extra sales. Don't neglect this vital service...put a CHEK-TAB on every car you service!

And when you fill out that CHEK-TAB and stick it in the doorjamb of his car, your new customer instantly knows that he has come to the right place. He is convinced that he can depend on *you* to help him keep his car rolling...with the *right* service at the *right* time.

There are CHEK-TABS for practically every service...lubrication, spark plugs, battery service, tire switching, oil filter change, etc. Get them from your suppliers.



**FREE:** Get this big 20-page, illustrated book! It's packed with real merchandising ideas, hot profit tips, all sorts of ways to use CHEK-TABS to make more money. Useful for service station operators, car dealers and their suppliers. Write—Mystik Adhesive Products, 2640 N. Kildare, Chicago 39.



**Sel-Stik Cloth and Paper Tapes, Protective and Masking Materials, Waterproof Packaging Papers, Advertising Signs and Displays, Self-Stik Stencils**

The Anti-Freeze  
with the  
Double Action  
**INHIBITOR**  
Resists Rust...  
Retards Evaporation



Because of huge government requirements and restricted production during the war, our supplies of High Test Quaker Anti-freeze for this season are now exhausted. However, some jobbers have limited stocks which are available to retailers who act quickly. Ask your jobber now.

## Pennsylvania Alcohol & Chemical Corporation

*Sales representatives and warehouse stocks in principal cities*

745 FIFTH AVENUE, NEW YORK 22, N.Y. • ALCOHOL PLANT, PHILADELPHIA, PA.

# The Touch-Button Age is Here



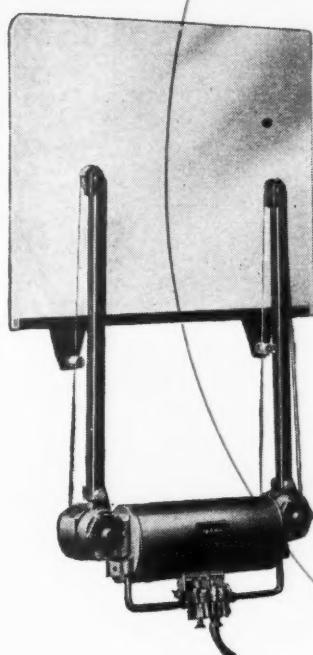
FROM the airplane into the motor car soon will step hundreds of thousands of men accustomed to the finger-tip world of cockpits. They are leaving plane control panels studded with scores of touch buttons and toggle switches—life savers in split-second emergencies.

Trico vacuum power devices will free these and other drivers from the last remaining manual operation in operating a motor car—the time-consuming cranking of windows and ventilating vanes.

A quick touch of a button flashes the window up or down in a split second. *That's the Lift-O-Matic.*

The touch of another button rotates the ventilating vane to any desired position. *That's the Vent-O-Matic.*

Cost-free vacuum gives these perfected Trico devices their speed, their simplicity, their economy. They are backed by 25 years of experience in manufacturing millions of vacuum-operated mechanisms. Trico Products Corp., Buffalo 3, N. Y.



◀ TRICO **LIFT-O-MATIC**

TRICO **VENT-O-MATIC** ▶



TO COMPLETE  
THE JOB  
*Install*  
a  
**CARTER**



Filtering unit of specially  
prepared porcelain keeps  
all harmful matter out of  
carburetor. Retail price

\$2 10

# CERAMIC FUEL FILTER

every time you overhaul a carburetor.

Today's limited driving calls for greater  
protection against all foreign matter.

**CARBURETER**  
Registered in U. S. Patent Office  
**PRODUCTS OF PRECISION**



**CARTER CARBURETOR CORPORATION**

• St. Louis 7, Missouri

Division of American Car & Foundry Company

# AVAILABLE TO GARAGES FOR THE FIRST TIME!



**TURCO FUZEE DIP-TANK CONTAINER**

TURCO FUZEE was a sensation with the Armed Forces—the way it cut stubborn carbon, engine varnish and adhesive dirt—the almost magic ease with which it cleaned pistons, fuel pumps, carburetors, etc.—and did it faster and more thoroughly than any other cold tank cleaner.

Now, for the first time, *you* can have all these advantages of Turco Fuzee in your own shop right here at home.

#### WHY FUZEE IS BETTER

The most effective solvents for the removal of adhesive dirt have always been both dangerous and difficult to use in cold tank-immersion because these solvents gave off offensive vapors, were highly inflammable and evaporated quickly. They were also quickly rendered useless by the very dirt they removed.

Through *Surface Chemistry*,\* Turco scientists not only found a way to overcome the hazards of these solvents, but they also found out how to improve the cleaning qualities. The result is Turco Fuzee.

#### FUZEE IS SELF-SEALING

Turco Fuzee is self-sealing—which means that the hazardous vapors are kept to a minimum by the use of a liquid "seal" which floats *on top* of the solvents, while the cleaning is done *in the bottom* of the tank. Practically all the old danger, unpleasant odors and disadvantages are eliminated by Turco Fuzee.

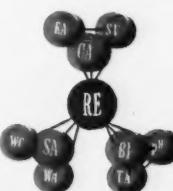
Thus, Turco Fuzee provides you, in one solution, with what we believe to be the finest tank-immersion cleaner on the market for removing carbon, engine-varnish, adhesive dirt and baked-on paint—a solution that's safe, non-vaporizing, long-lasting.

#### TURCO FUZEE DIP-TANK CONTAINER

This special Turco Fuzee dip-tank kit is now available, giving you a complete dip-tank unit at an exceptionally low cost.

*This Advance in Cold Tank Cleaners was so Outstanding it was Available Only at Highest Priority!*

#### \*THIS IS TURCO SURFACE CHEMISTRY



Surface Chemistry is the scientific balance and application of these cleaning factors to a specific problem.

WA—Wetting Action  
EA—Emulsifying Action  
SV—Saponifying Value  
SA—Solvent Action  
CA—Colloidal Activity  
WC—Water Conditioning  
BI—Buffer Index  
pH—Energy of Alkalinity  
TA—Total Alkalinity  
RE—Research and Experience, the combining factor that puts all the above elements into balance and to work on your specific problem.



# TURCO

INDUSTRIAL CLEANING COMPOUNDS

TURCO PRODUCTS, INC. Main Office & Factory: 8135 S. Central Ave., Los Angeles 12.  
Offices & Factories: 125 W. 46th St., Chicago 9 - 1005 Henderson St., Houston 1, Texas.  
New York Office: 415 Greenwich St., New York 12. Offices & Warehouses in All Principal Cities.

TURCO PRODUCTS INC.  
Dept. MA-11, Box 2649, Los Angeles 54, Calif.

Please send me information on the following:

- Turco Fuzee and Dip-Tank Kit    Turco Cold Spray Compounds    Turco Hot Tank Cleaning Compounds  
 Turco Steam Cleaning Compounds    Turco Steam Cleaning Equipment    Turco Mulsine    Turco Car Shampoo    Turco Radiator Flushing Compounds

Name \_\_\_\_\_

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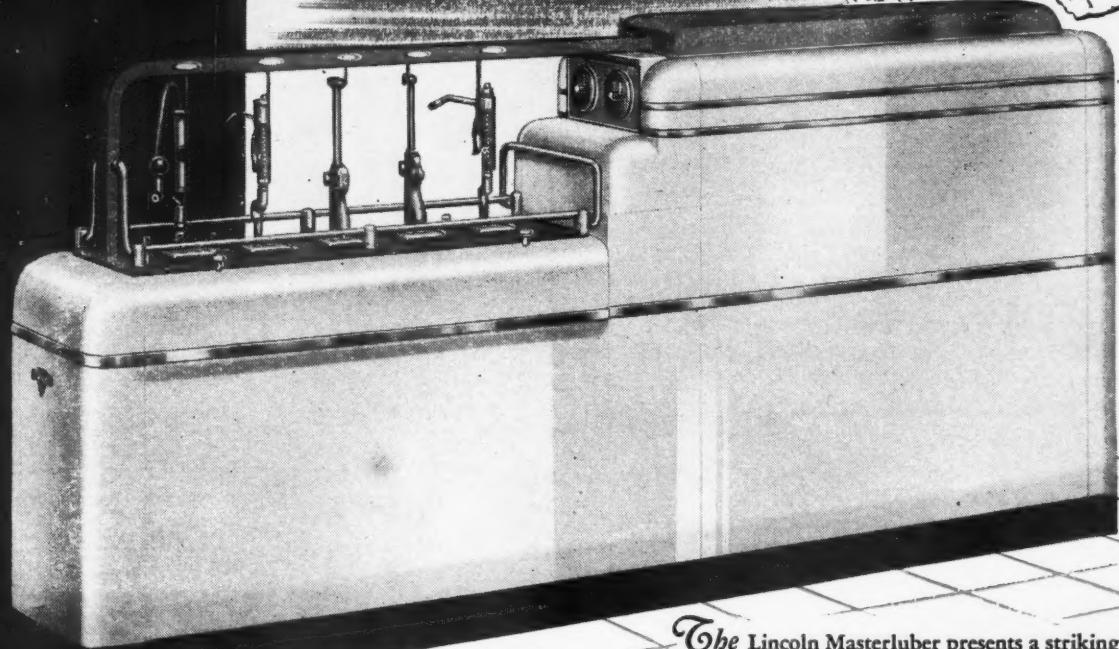
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# LINCOLN

Model  
3664

## MASTERLUBER

"The Finest Thing Money Can Buy"



**ORDER  
NOW**

Now is the time to plan ahead. Send your order to your Lincoln Wholesaler immediately.

The Lincoln Masterluber presents a striking combination of utility, showmanship, compactness and simplicity of installation. It is especially built for installation between two lifts or alongside of a single lift. Modern in design and beautiful in appearance the Model 3664 provides two chassis, two gear lubricant outlets, and one air outlet. All outlet hoses are carried on automatic air operated retracting Lubreels. It includes a single cylinder Lubri-gun for chassis and two gear lubricant dispensers. Lubricants are dispensed direct from 100-lb. original refinery drums housed in the cabinet. Easy to read gear lubricant meters are mounted above the Lubreels at the center of the cabinet. Simple to install, the Masterluber requires only an air line to place it in operation.

A Lincoln Masterluber will help build profitable lubrication business and enable you to turn out better jobs in less time.



A 1516

## LINCOLN ENGINEERING COMPANY

Pioneer Builders of Engineered Lubricating Equipment

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# What

EVERY  
MODERN  
SERVICE-STATION  
NEEDS



## HANSEN *automotive* AIRLINE EQUIPMENT

Hansen Automotive Airline equipment has been widely used by service stations the world over.

No service station is complete without this modern equipment, each unit of which plays an important part in the proper servicing of cars. They save time and effort and produce better results which in turn means more profits, more satisfied customers. Hansen Air hose couplings are easy to install, easy to operate. Merely push plug into socket—it is connected and air is automatically turned on, slide sleeve back with thumb—plug is ejected, it is disconnected and air is automatically turned off. Saves much air.

Hansen Engine Cleaners are very efficient for cleaning automobile engines or parts by merely attaching to your airline. They will handle kerosene, light oils and cleaning fluids.

Hansen portable Sand Blast cleaners are ideal for removing old paint, rust, carbon, etc., and are widely used for cleaning parts for welding and soldering. Container holds one quart of silica sand.

Number 82 Hansen oiler is manually operated and used extensively for spraying springs. Projects a solid jet of light or penetrating oil when plunger is depressed. It has a capacity of one quart.

Modern times demand modern equipment and in the automotive field that means Hansen, first choice judged on performance.

*Send in today for free automotive catalog*

**HANSEN MFG. CO.**

1786 EAST 27th STREET • CLEVELAND 14, OHIO



# IT PAYS YOU WELL!

## DYNAMIC ACTION

**McAleer**  
**Vibromatic**  
*Compressed Air*  
**CLEANER**



## Cleans Automobile Upholstery and Carpets

**Sell This Service or Give it Away  
 You're Money Ahead Either Way!**

Car Dealers, Super Service Stations, Wash Racks can now offer their customers better service with the McAleer Dynamic-Action Vibromatic System.

The McAleer Vibromatic Compressed Air Cleaner offers you additional profits and creates customer goodwill. Use it for car upholstery and carpet cleaning. It's a natural for a combination offer. Or you may prefer to offer this cleaning service as a special courtesy. It will pay you either way.

The Vibromatic Cleaner surpasses any other known vacuum method for fast, thorough, and inexpensive cleaning of car upholstery and carpets. Attaches to your present air outlet. Produces a powerful, vibrating force—2000 pulsations per minute—that beats the dust, dirt, and sand from car upholstery and carpets and whisks it away with powerful air suction. More efficient than units that cost four times as much.

*Order from Your Jobber Today*

**McAleer**  
 MANUFACTURING CO.

MCALEER MANUFACTURING CO., LTD., CHATHAM, ONTARIO

**FASTER, BETTER**

**ONLY**

**\$28<sup>95</sup>**

**COMPLETE**  
with high pressure hose, extension tubing, receiving bag.



**FULLY GUARANTEED!**

Manufacturers of VIBROMATIC CLEANER,  
 AUTOMOTIVE WAXES, POLISHES,  
 and RUBBING COMPOUNDS

**ROCHESTER, MICHIGAN**

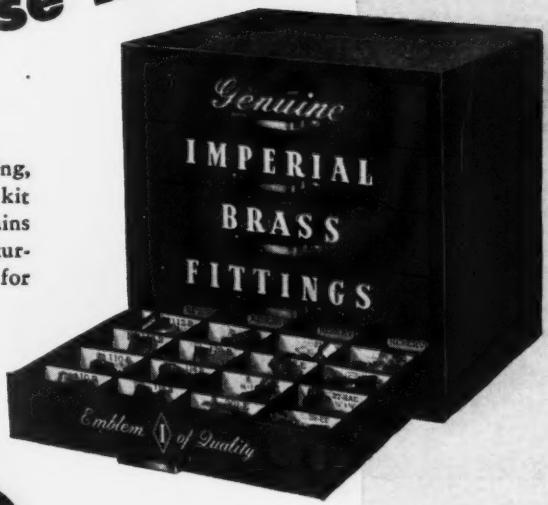


# Petrol

*to handle  
gas and oil line work FASTER  
with these Imperial Kits*

1

**BRASS FITTINGS**—For want of a fitting, many a gas and oil line job is delayed. This kit helps you eliminate pick-ups and delays. Contains the most needed brass fittings. Stocked in a sturdy 5-drawer steel cabinet. Ask your Jobber for Imperial No. 430-FA.



2

**FLEXIBLE FUEL LINES** are right at your fingertips when you have one of these handy Imperial Merchandisers. They contain the most needed flexible gas and oil lines—stocked in a steel wall rack with exclusive advantages. Several sizes. See your Jobber.

3

**FLEXIBLE HOSE AND ATTACHABLE FITTINGS**  
This kit enables you to make up needed oil filter and special gas and oil lines in a few seconds. Includes hose and all the most needed end connections. A real time-saver. Ask your Jobber for Imperial No. 115-FN.



IF YOUR JOBBER CAN'T SUPPLY YOU AT ONCE, ASK  
HIM TO ENTER YOUR ORDER FOR EARLIEST DELIVERY.

THE IMPERIAL BRASS MANUFACTURING CO.  
1217 WEST HARRISON STREET, CHICAGO 7, ILLINOIS

# IMPERIAL

Brass Fittings •  
Battery Hydrometers

Flexible Fuel Lines •  
Fuel Strainers

Tube Working Tools •  
Welding Equipment



## HARTMAN Meets Every Demand for Up-to-the-Minute Battery Analyzing and Charging Service!

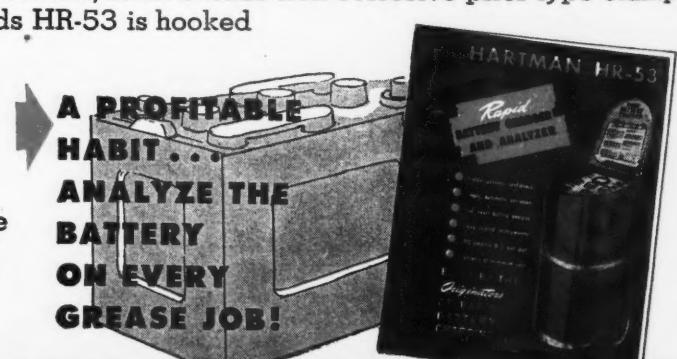


### Ask Your Jobber to Demonstrate the **HARTMAN HR-53 BATTERY ANALYZER and CHARGER**

With Hartman HR-53, battery testing and charging is made as easy and important a part of regular service as checking oil and tires. HR-53 is a completely self-contained unit...has everything you need to offer the *best battery charging service in town*...no racks, benches or extra floor space are required.

Such features as individual cell analysis, discharge desulphating unit, and 100 ampere out-put of HR-53 enable dealers to render a more complete and better service than ever before. For economy and long-life HR-53 features include Navy-sealed, precision type instruments, multitap switch for fine current adjustments, extra heavy duty transformers, solid bronze non-corrosive plier-type clamp and fully automatic time switch. In a few seconds HR-53 is hooked up...you go about other work as battery is being charged, saving you many precious man-hours, giving your customers quick, efficient service.

Start now making extra profits with HR-53; send for your catalog folder or order your machine direct from your jobber for *immediate delivery!* HR-53's now obtainable without any priority!



# H A R T M A N

C O R P O R A T I O N O F A M E R I C A

6417 Manchester • St. Louis 10, Missouri

# OILDEX

Pat. No. 1,990,657. Other Pat. Pending. Trade Mark Registered

## OIL DILUTION EXTRACTOR

A Proven GAS and OIL SAVER for all year 'round operation with  
2 VALUABLE PLUS FEATURES FOR WINTER DRIVING

### Dependable

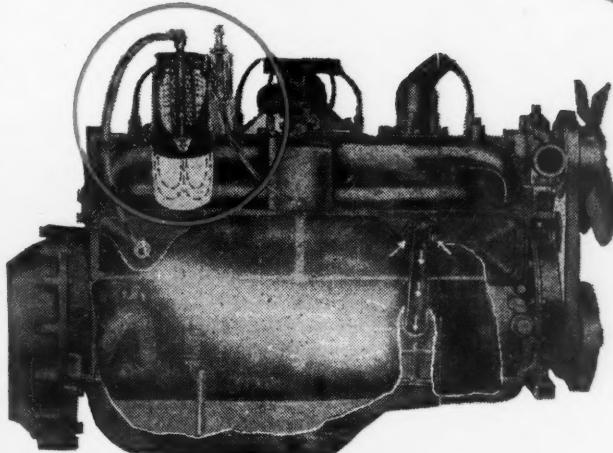
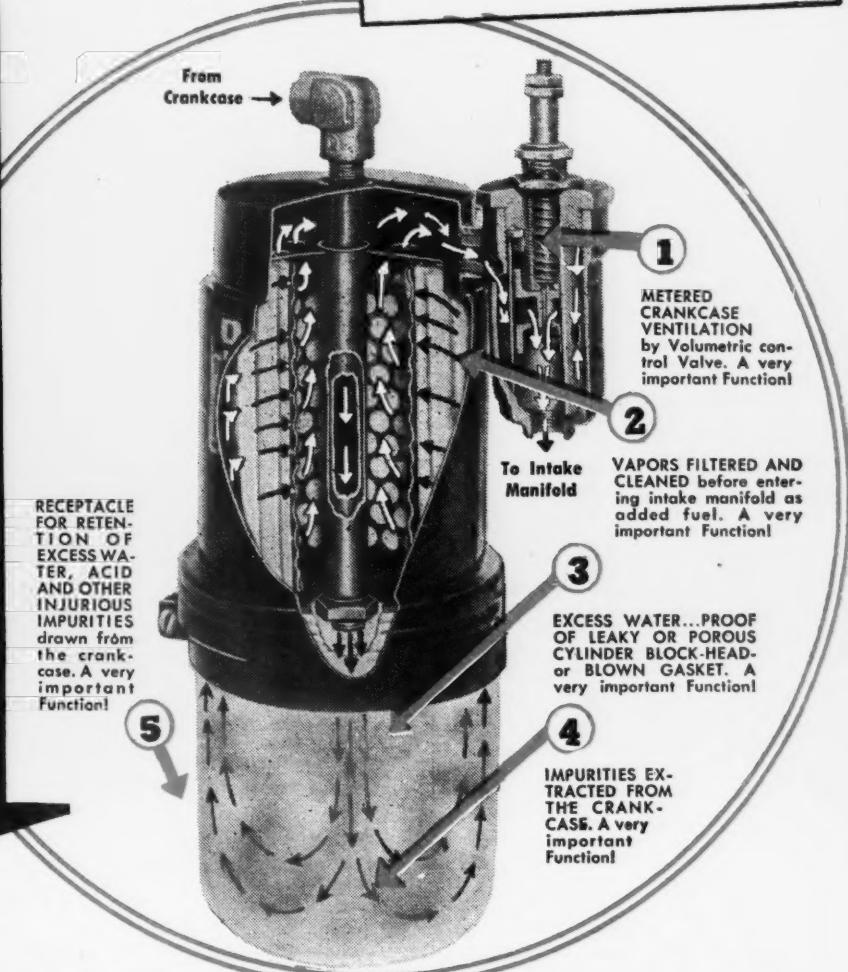
#### METERED AND CONTROLLED Crankcase Ventilation

OILDEX is scientifically designed and engineered for the purpose of removing diluent vapors from the crankcase before they condense into damaging liquid impurities. OILDEX extracts, then filters these vapors and returns them through the OILDEX volumetric control valve to the cylinders where they are utilized as reclaimed fuel—resulting in notably increased mileage.

OILDEX thus prevents the crankcase oil from becoming contaminated by impurities, such as water, acid and unburned gasoline.

#### WINTER FEATURES

- Excess water does not condense in crankcase—with danger of freezing, breaks, and other cold weather hazards.
- Protects driver, foodstuff, etc. from crankcase fumes—particularly obnoxious in winter driving when windows are closed.



QUICKLY AND PROFITABLY INSTALLED ON ANY MOTOR. ALL MAKES OF CARS, TRUCKS, BUSSES, MARINE AND STATIONARY GASOLINE ENGINES CAN BE EQUIPPED. Specify model and year of car when ordering on our money back guarantee. OILDEX lists at \$15.00—FILTREX \$10.00—Complete with Fittings. (Slightly higher on West Coast).



## FILTREX

Pat. No. 2,186,719 Other Pat. Pending. Trade Mark

### ADVANTAGES

- Light—Compact—Strong
- Series of different densities of filtering elements
- Partially balanced method of filtration
- Low cost of replacements

With OILDEX removing liquid and vapor impurities and FILTREX removing solid and semi-solid impurities the motor receives COMPLETE Protection.

ORDER SAMPLES TODAY ON OUR MONEY BACK GUARANTEE

Send for New OILDEX Catalog

## MOTOR ECONOMY PRODUCTS, INC.

SUBSIDIARY OF WATSON ELEVATOR COMPANY

407 WEST 36th STREET

NEW YORK, 18, N.Y.

# OFFICIAL RELEASE

## New AUTOMOTIVE PARTS

Available NOW for immediate delivery to  
**DISTRIBUTORS • DEALERS • SERVICE GARAGES • FLEET OPERATORS**

### Parts for All Cars and Trucks

We have parts for practically every make and type standard car and truck manufactured in the U. S. since and including 1939. Every part from a cotter pin to an engine. Blocks, transmissions, axles, differentials, spark plugs, etc. If it is a part of an automobile or truck we have it for sale.

**WHO CAN BUY?** Any recognized automotive distributor, dealer, service garage, or fleet operator who has filled out and filed a qualification blank which determines proper trade level and establishes your credit rating. If you have not already done so, secure qualification blank at once from your regional office.

**HOW TO BUY** Order your needs on Government order form OSP75-T available at your regional office. Simply use your regular standard automotive parts catalog. Our stock numbers agree with their listings. Regular trade level discount system applies.

**TERMS:** No deposit is required. All sales handled on 30 day payment basis. Full freight allowed everywhere in the United States. Minimum order \$500.00 NET (after your discount is deducted). It is anticipated that small dealers who cannot use the minimum quantity of parts will be serviced by their distributors.

### ACT NOW

If you have not yet qualified, do so TODAY. If qualified, NOW is the time to order and stock your shelves.

#### Office of Surplus Property DEPARTMENT OF COMMERCE • AUTOMOTIVE DIVISION

Firms in Connecticut, Maine, Massachusetts, New Hampshire, Vermont or Rhode Island write—600 WASHINGTON STREET, BOSTON 11, MASS.

Firms in New York or New Jersey write—61st FLOOR, EMPIRE STATE BLDG., NEW YORK 1, N. Y.

Firms in District of Columbia, Delaware, Pennsylvania, Maryland or Virginia write—LAFAYETTE BLDG., 5TH AND CHESTNUT STREETS, PHILADELPHIA 6, PA.

Firms in Indiana, Kentucky, Ohio or West Virginia write—704 RACE STREET, CINCINNATI 2, OHIO.

Firms in Illinois, Michigan, North Dakota, South Dakota, Minnesota or Wisconsin write—209 S. LASALLE STREET, CHICAGO 4, ILL.

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Firms in Louisiana, Texas, Arkansas or Oklahoma write—P. O. BOX 1407, FORT WORTH 1, TEXAS.

Firms in Iowa, Kansas, Missouri or Nebraska write—2605 WALNUT STREET, KANSAS CITY 8, MISSOURI.

Firms in New Mexico, Utah, Colorado or Wyoming write—1030 15TH STREET, DENVER 2, COLORADO.

Firms in California, Arizona or Nevada write—30 VAN NESS AVENUE, SAN FRANCISCO 2, CALIF.

Firms in Oregon, Montana, Idaho or Washington write—2005 FIFTH AVENUE, SEATTLE 1, WASHINGTON.

No. 33A  
SELF-CALCULATING

By

*Edelmann*

# BREEZ-D-TECTOR

For EASY, SPEEDY  
ANTI-FREEZE TESTING

PROTECT YOUR  
CUSTOMERS this WINTER

**ORDER  
EARLY!**

Only a Limited Quantity  
of Genuine No. 33A  
Available



NO SHORTAGE  
of Other Lower  
Priced Models - ASK YOUR  
JOBBER



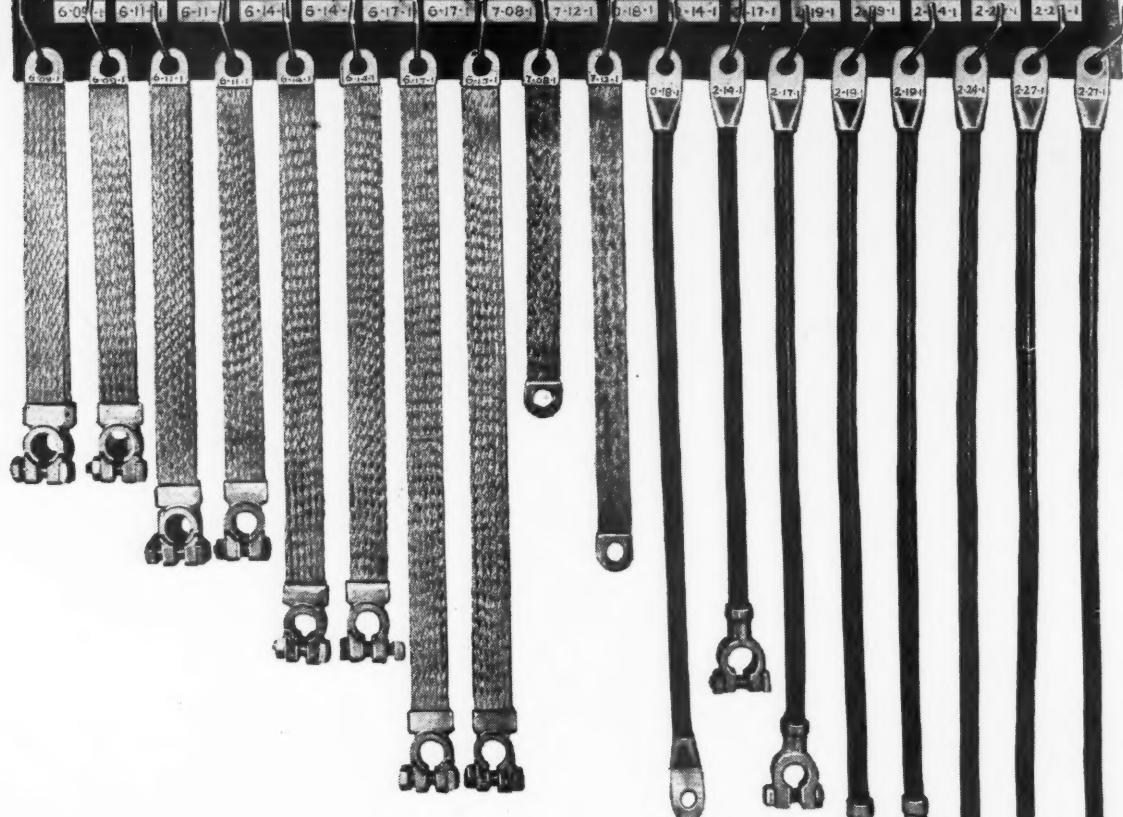
**E. EDELMANN & CO., Chicago 47, Illinois**

CRESCE

Wiry Joe

BATTERY  
CABLE

FULL POWER • EASIER STARTING



## HERE'S QUALITY ON DISPLAY!

This attractive, new WIRY JOE display rack helps you sell more WIRY JOE Battery Cables—acts as an extra salesman that's always on the job showing your customers the distinctive quality of WIRY JOE Battery Cables!

This sturdy display rack is designed to hold a full assortment of the WIRY JOE Battery Cables and Straps needed to service cars and trucks. It comes to you very carefully packed with an assortment

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Ask your jobber for these new WIRY JOE assortments which include these desirable display racks and for catalog pages listing the cables and straps included in the assortments.

*And remember this! When you service a car or truck, check the battery cable! Show your customer just why a new WIRY JOE Battery Cable will assure easier starting and better engine performance.*

✓CHECK THE WIRE ON EVERY JOB!



Wiry Joe  
AUTOMOTIVE CABLE  
manufactured by  
THE CRESCENT COMPANY, Inc.  
Pawtucket, Rhode Island

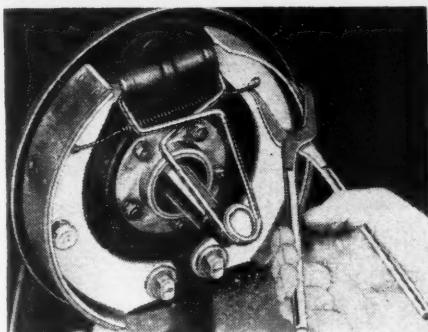
# Thermoid

*precision processing*

MAKES EVERY BRAKE JOB

*Right the first time!*

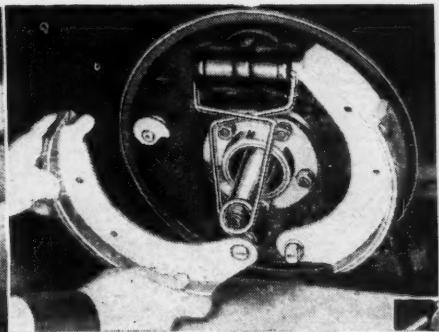
Here is how Thermoid "Precision Processing" saves you time, money and labor



1. To reline brakes the Thermoid way, the first step is to merely remove the old brake shoes.

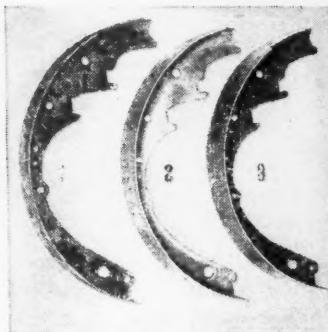


2. Your Thermoid distributor exchanges the old set of brake shoes for a set of Thermoid Precision Processed Brake Shoes, already lined.

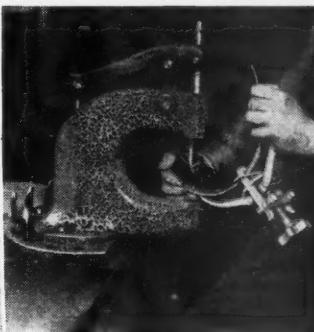


3. You install the Precision Processed shoes, make routine adjustments, and the job is finished. The brakes will be Right the First Time!

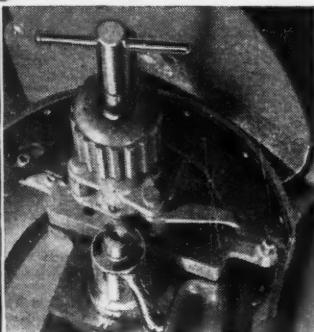
**Thermoid Precision Processing is as Scientific as it sounds**



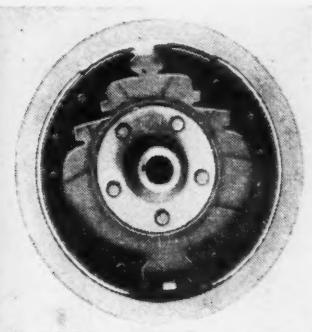
1. The old brake shoes are checked thoroughly for distortion and wear, the old lining is removed, the shoes cleaned and painted.



2. Thermoid Custom-Built Brake Lining, certified correct for the car, is then applied to the shoe by precision methods.



3. The relined shoes are then precision burnished to assure absolutely accurate fit when installed.



4. Here's the result. Immediate, 100% lining to drum contact that gives "new-car" brake performance on every reline job.

**NOTE TO PROGRESSIVE DEALERS:** Thermoid Precision Processing Franchise and equipment will shortly be available to those interested in doing the complete job in their own shops and building the very substantial brake lining business that Thermoid Precision Processing attracts.



Show your customers this Pittsburgh Testing Laboratory Certificate. It is an independent, authoritative guarantee that each set of Thermoid linings is correct for the car specified.

# Thermoid

CUSTOM-BUILT BRAKE LINING SETS

*plus*

PRECISION PROCESSING

THERMOID COMPANY, TRENTON, NEW JERSEY

# Chilton ANNOUNCES

## The NEW 1946 FLAT RATE and SERVICE MANUAL

• Completely New • Bigger • Contains the Greatest Amount of Essential Data Ever Put Into One Book

### NOW SELLING on advance of delivery

Your Chilton Man will call on you to tell you all about the forthcoming 17th Edition. The Manual cannot be printed until we are able to flat rate the new cars, and to supply their service procedure, but it will pay you to place your order with your Chilton Man when he calls, so you may receive one of the first copies off press.



The Greatest Manual  
Chilton Has Ever Published

This is the great, new 1946 postwar book that Chilton promised you it would produce, now carrying a new name—The Motor Age Flat Rate and Service Manual.

It will supply your every possible need for Flat Rate Labor Charges, Material Charges, Parts Prices, Quick Reference Tune-Up and Short Cuts Data, and How-To-Do-It procedure on trouble-shooting, major and minor overhauls for ten years, from 1937 to 1946 inclusive.

It furnishes all information on the 1946 cars. It supplies motor car and truck flat rates and truck and tractor tune-up.

The Quick Reference Tune-up and Short Cuts Data has been replaced at the bottom of each flat rate page. Over 450 parts numbers and prices for each make and model.

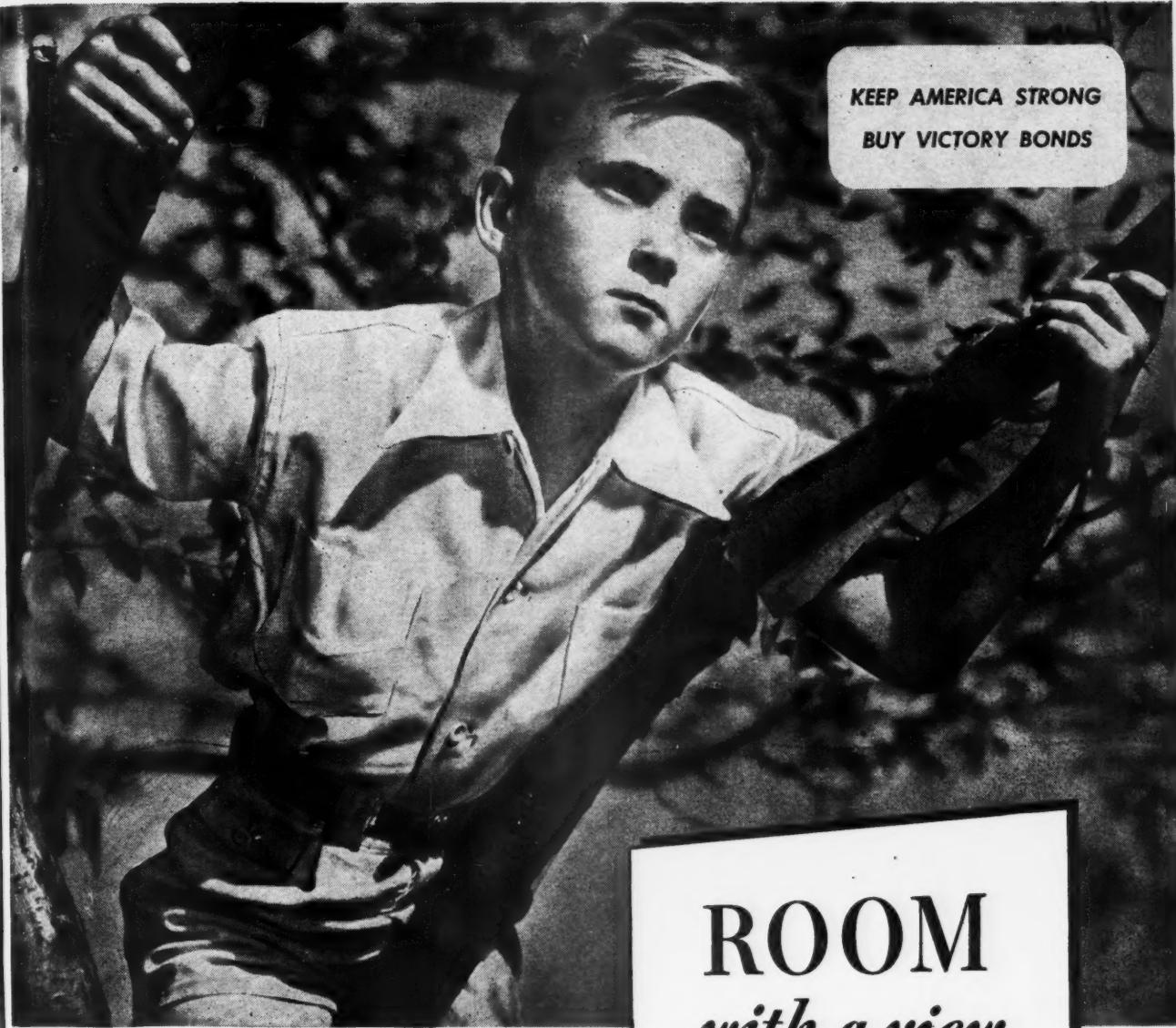
Chilton time-studied labor prices will again enable you to make more money, but factory time allowances are also supplied for reference purposes.

The increased size of the pages enable us to furnish more parts information, more flat rate operations, more tune-up and short cut footnotes, and more service procedure than has ever appeared before in any Manual.

As always, parts prices, labor charges and materials and flat rate data are all together for each make on two pages facing, providing the Chilton easy-to-use system, and the familiar Chilton Index of Operations will seem to you like old times when you use it.

Space does not permit describing this great, new Manual. You will have to see the big service section and the many exploded views, cross-sectional illustrations, and action pictures it provides.

**Do not buy any other  
Manual until the  
Chilton Man arrives!**



KEEP AMERICA STRONG  
BUY VICTORY BONDS

## ROOM *with a view*

BOYS wouldn't be boys if they didn't climb trees.

Surely they wouldn't be lively, red-blooded American boys if they didn't hunt out the places where the eye can range farthest and the greatest plans be made.

It's good that they do. For many of them will carry into manhood that same urge to hunt out the new point of view—the fresh slant on things.

Men with this far view looked on the early automobile and saw what this chugging, lumbering thing could become.

They built an industry and made millions of jobs by doing so.

Men like this frowned on the old-fashioned refrigerator—and dreamed up the far tidier, more convenient and more efficient electric refrigerator.

They added new comfort to our living—and filled many a new pay envelope—because they caught this vision.

Men with this viewpoint look eagerly into the future now. It is their faith—certainly among those here in General Motors—that tremendous possibilities lie ahead.

Never was there greater need for more and better things for more

people—never have we been so well equipped to produce them.

And never—given the needed effort to get the wheels rolling—could we be so sure of a future filled with steady demand for peacetime products and steady, good-paying jobs for our people.

Naturally, all this cannot be accomplished by one company. It calls for all the effort of all our working facilities pulling together.

But General Motors knows, from long history, that jobs increase, earning levels go up, standards of living rise—when you really put your mind to making "more and better things for more people."

Count on General Motors to keep on working for this above all.

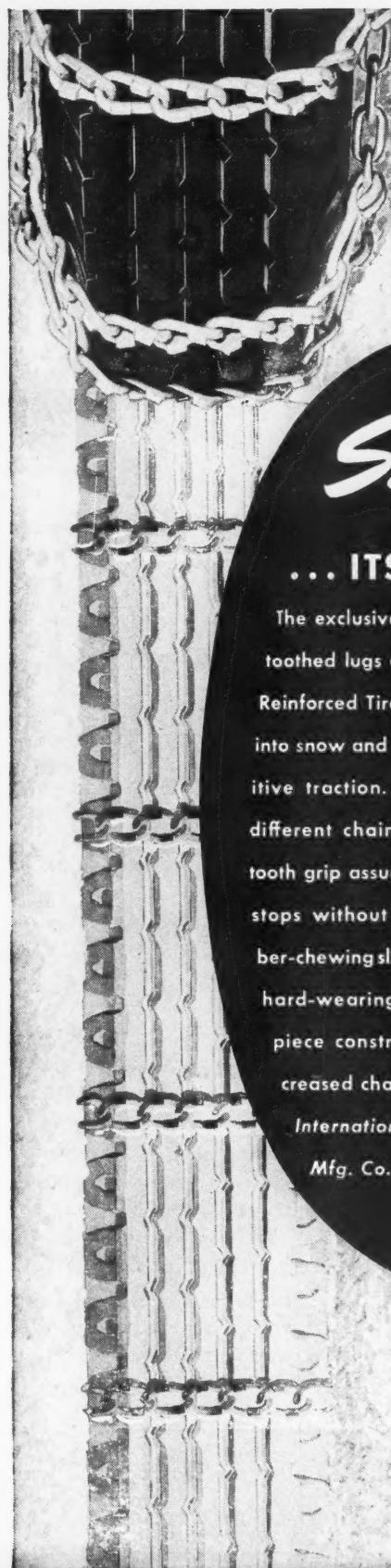
### GENERAL MOTORS

MORE AND BETTER THINGS  
FOR MORE PEOPLE

CHEVROLET • PONTIAC • OLDSMOBILE • BUICK  
CADILLAC • BODY BY FISHER • FRIGIDAIRE  
GMC TRUCK AND COACH • GM DIESEL

Every Sunday Afternoon

GENERAL MOTORS SYMPHONY OF THE AIR  
NBC Network



The exclusive, patented\* saw-toothed lugs of Campbell Lug-Reinforced Tire Chains dig right into snow and ice to assure positive traction. These radically different chains with the saw-tooth grip assure safe starts and stops without dangerous, rubber-chewing slip and skid. Tough, hard-wearing steel, and one-piece construction, mean increased chain mileage.

International Chain and  
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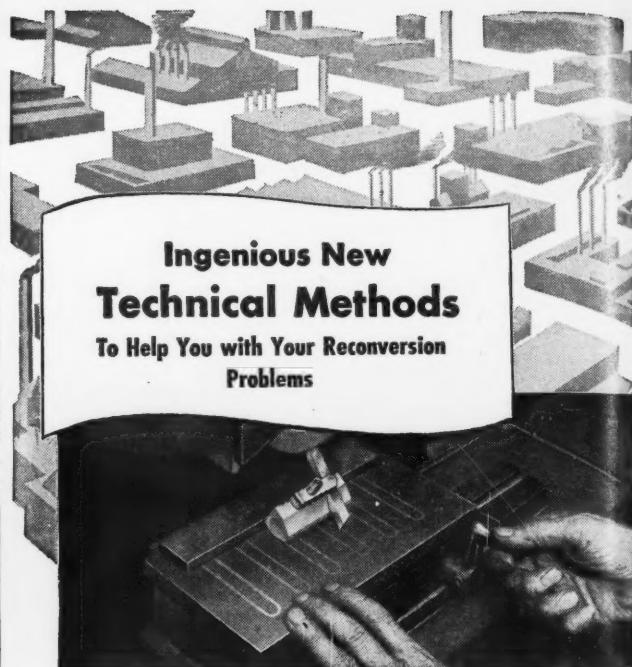
\*U.S. PAT. NO. 2,093,547  
\*CANADIAN PAT. NO. 223,568



**CAMPBELL**  
*Lug-Reinforced*  
TIRE CHAINS

THE CHAIN WITH THE SAW-TOOTH GRIP

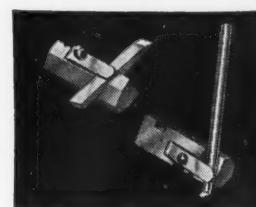
*The*  
**CAMPBELL**  
Line



## NOW ANYONE CAN GRIND THREADING TOOLS!—WITH MASTER GRINDING GAUGE!

Until the advent of the Acro Master Grinding Gauge, only a skilled mechanic could grind thread-cutting tools to the required degree of accuracy. Now anyone can do it—in less time, with less waste, with even greater precision!

The cutting tool is simply placed in slot of the Master Grinding Gauge, and thumb screws hold it tightly in place, at the proper angle, while being ground on any type of surface grinder! The Gauge is made of hardened tool steel. There are no delicate or moving parts to get out of order. Milled slots at top and bottom provide correct grinding angles. A small set screw at end, eliminates any lateral motion. There is nothing special to learn—anyone can use it!



Acro Master Grinding Gauge

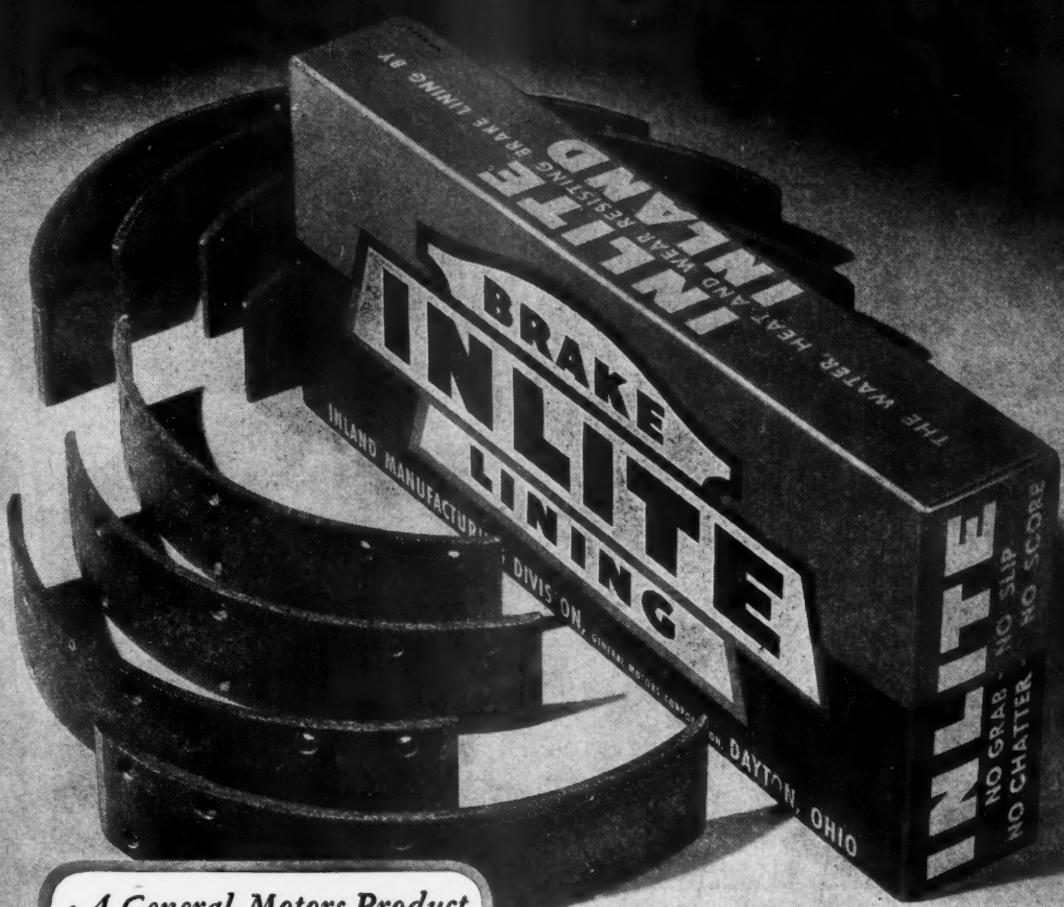


Remember this wrapper

You can get complete information from:

Acro Tool and Die Works,  
4554 Broadway, Chicago 40, Ill.

Z-91



*A General Motors Product*



Available Everywhere Through  
United Motors Service Distributors

## Two Way Time and Labor Saver

Original equipment quality Inlite saves time and labor two ways for shorthanded brake service men. One, Inlite goes on faster and comes into normal operation at once. Two, Inlite stays in adjustment thereby eliminating costly time wasting callbacks.

Furthermore, Inlite gives positive pedal pressure that's right for both men and women

drivers. And, every Inlite segment has the same uniformity of structure—the same long wear factor—for straight stops over a longer life. Now that Victory is here, your jobber will soon have Inlite for you.

\* \* \*

INLAND MANUFACTURING DIVISION  
General Motors Corporation      Dayton, Ohio

# INLITE BRAKE LINING

THEY FINISHED THEIR JOB—LET'S FINISH OURS—BUY VICTORY BONDS



• Tie up with FITZ-

GERALD Gaskets—an easy way to increase your profits. FITZGERALD Gaskets are all of highest quality, manufactured to precision. There is a type for any installation. This means customer satisfaction on every job.

The complete FITZGERALD line has everything else in the gasket and grease retainer field; any make, any model, any year—'way back to 1906. Get in on these bigger profits now—standardize on FITZGERALD. Your jobber will give you prompt, efficient service . . . The FITZGERALD Manufacturing Company, Torrington, Conn. Branches, Chicago and Los Angeles—Canadian FITZGERALD, Limited, Toronto.

**FITZGERALD**  
**GASKETS**

Since  
1906

THE COMPLETE LINE THAT COMPLETELY SATISFIES

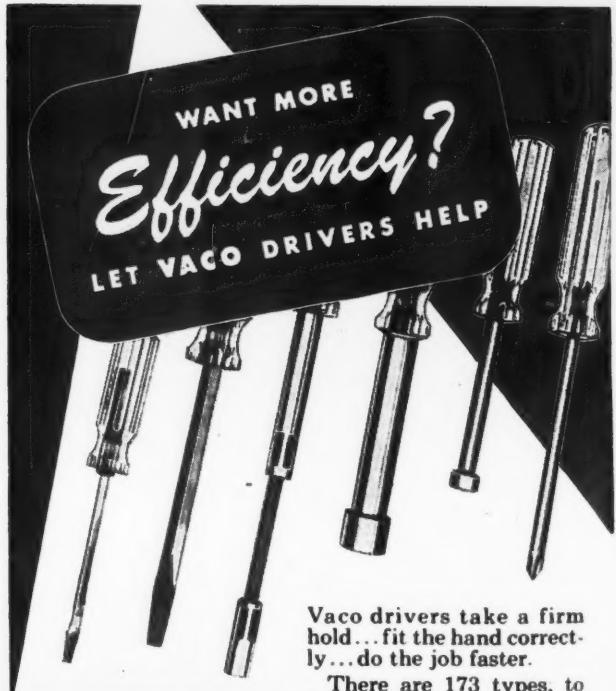


**NEW PLASTIC DISCOVERY** — Flex-O-Cryst — used in NUPLA Hammers is more durable than rawhide because it does not curl or deform. Unlike rubber, it is not affected by oil or gasoline. Will not rebound or sting. Unlike many plastic materials, it does not chip or crack.

That's why NUPLA Hammers are unlike any hammer you've ever seen. They hit hard effective blows without marring, cutting or battering.

NUPLA Hammer is a craftsman's tool. Has a straight grain hickory handle locked in place; finely finished. Write for name of local dealer or jobber . . . SOLD BY HARDWARE STORES EVERYWHERE.

NEW PLASTIC CORP. 1017 N. Sycamore Ave., Los Angeles 38, Calif.  
**A NUPLA HAMMER FOR EVERY JOB**  
**5 SIZES—29 WEIGHTS**



Vaco drivers take a firm hold... fit the hand correctly... do the job faster.

There are 173 types, to fill all regular, and special requirements. Write for catalog.

**VACO**

**PRODUCTS CO.**

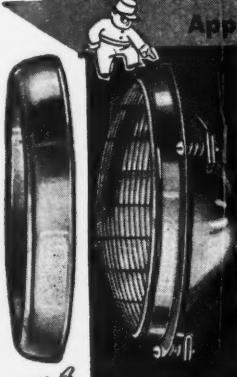
315 E. ONTARIO ST. • CHICAGO II, ILL.

Canadian Warehouse: 360 KING STREET, WEST • TORONTO 2 ONTARIO

# MODERNIZE PRE-1940 CARS and TRUCKS with *Pathfinder*

**SEALED BEAM  
HEADLAMP  
ADAPTERS**

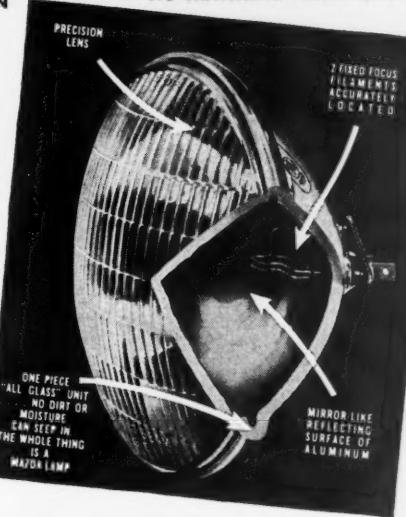
Approved In All States



COMPLETE  
CONVERSION  
UNIT



NO REWIRING NECESSARY



Old Headlamp Ring,  
minus Old Lens, goes  
back in place to com-  
plete the job.

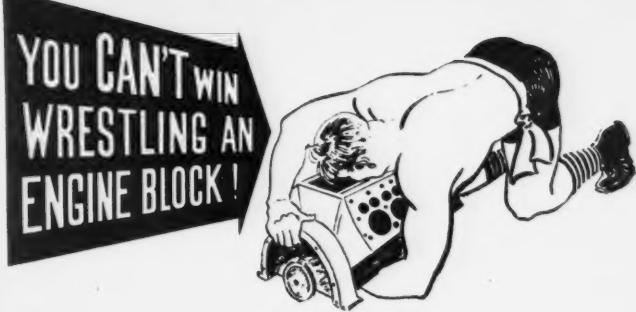
Electrical connections  
made by clipping old  
wires and connecting  
with wires of  
unit. Entire adapter  
unit fits securely  
into old shell,  
without rewiring.

New car production will lag behind public demand for years. Modernization of headlights on millions of old cars is necessary for safe operation. With PATHFINDER Adapters, pre-1940 headlamps can now be converted into efficient, low cost "Sealed Beam" lights.

**WRITE FOR CATALOG**

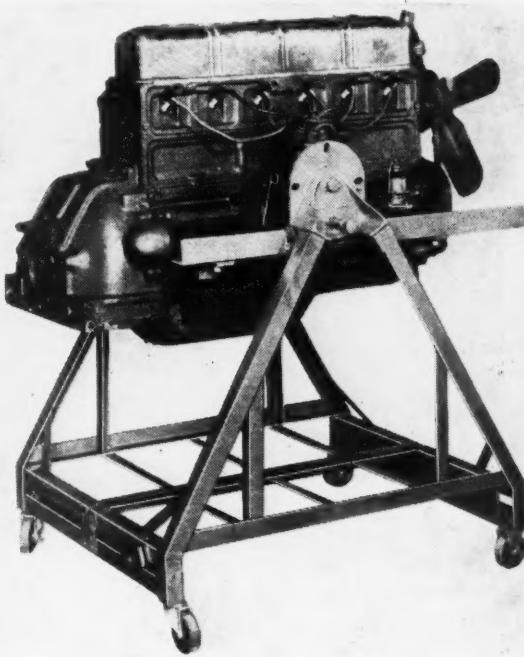
**AUTO LAMP MFG. CO.**

2901-17 Indiana Avenue Chicago 16, Illinois



**BUT—You Can Win with This  
New Universal Engine Overhaul Stand  
... Performs Every Operation Without  
Removing Block from Stand**

This Clayborne Universal Model 201 Engine Overhaul Stand makes possible production line efficiency in every shop, no matter how small . . . increases production and lowers cost on every operation. Eliminates all handling of motor block during re-building. Entire block can be revolved for complete accessibility at all times for grinding seats, cutting valve clearance, etc. All parts can be replaced on motor ready to return to the chassis. Sturdily constructed. Completely mobile. Safe and easy to operate. Block may be steam cleaned on stand.



Chevrolet Engine mounted on Clayborne New Style Universal Stand Model 201.

The Clayborne Universal Model 201 Engine Overhaul Stand handles all in-line automotive engines to approximately 600 lbs. This stand readily handles the complete engine including oil pan, clutch housing, and accessories. The special quick mounting clamps which grip engine pan rails are a special feature of this highly developed stand.

Completely illustrated and descriptive literature on Automotive Overhaul Stands, also Aircraft Engine Stands is now available. Also on large stands for heavy bus, truck and tractor engines. Address your request to, Clayborne Manufacturing Co., Dept. "M," 209 South La Salle Street, Chicago 4, Illinois.

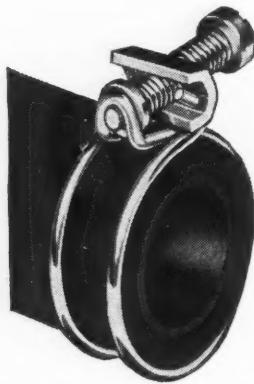
## discovered!



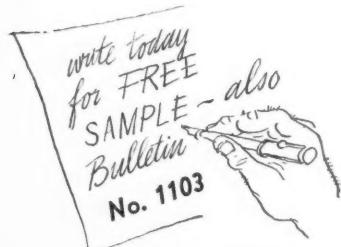
A new wire  
hose clamp  
... that's not  
a "gadget"  
... but a powerful, extreme  
pressure clamp that holds  
its grip over the full 360°  
circumference of any type  
of hose!



This is the clamp that  
forests frustration from manu-  
facturers, mechanics and  
owners. Available in the pop-  
ular sizes . . . and un-  
conditionally guaranteed to do  
the job 100%.



The Central "360" Wire  
Hose Clamp has been thor-  
oughly tested . . . its grip is  
as powerful as a steel vise.  
Costs no more . . . worth  
much more.



### CENTRAL "360" WIRE HOSE CLAMP

CENTRAL EQUIPMENT CO.  
900 S. WABASH AVE., CHICAGO 6, ILL.

STATEMENT OF THE OWNERSHIP, MAN-  
AGEMENT, CIRCULATION, ETC., REQUIRED  
BY THE ACTS OF CONGRESS OF AUGUST  
24, 1912, AND MARCH 3, 1933

Of MOTOR AGE, published monthly at Phila-  
delphia 39, Pa., for October 1, 1945.

State of Pennsylvania }  
County of Philadelphia }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared G. C. Buzby, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the MOTOR AGE and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Chilton Company, Chestnut and 56th Sts., Philadelphia 39, Pa.; Editor, W. K. Tobolit, Route 1, Chester Springs, Pa.; Managing Editor, F. J. Serdahely, 6204 Oakley St., Philadelphia 11, Pa.; Business Manager, G. C. Buzby, East Sunset Ave., Chestnut Hill, Philadelphia 18, Pa.

2. That the owner is: (If owned by a corporation, the name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Chilton Company, Chestnut and 56th Sts., Philadelphia 39, Pa.

Holders of more than 1% of the capital stock outstanding of Chilton Company: C. A. Musselman, 260 Sycamore Ave., Merion Station, Pa.; J. S. Hildreth, York Lynne Manor Apts., City Line & Berwick Road, Overbrook, Phila., Pa.; Charlotte M. Terhune, 160 E. 48th St., New York, N. Y.; C. S. Baur, c/o Chilton Co., 100 E. 42nd St., New York 17, N. Y.; J. H. Van Deventer, 50 Lake Shore Drive, Vails Grove, Peach Lake, Brewster, N. Y.; Mrs. Beulah Fahndorf, 19 Tunstall Rd., Scarsdale, N. Y.; Mary M. Acton, 260 Sycamore Ave., Merion Station, Pa.; Mabel M. Musselman, 260 Sycamore Ave., Merion Station, Pa.; Dorothy S. Johnson, 1115 Fifth Ave., New York, N. Y.; Ann E. Tomlinson, c/o Bankers Trust Company, P. O. Box 704 Church Street Annex, New York, N. Y.; Ethel G. Breen, Trustee u/w of Charles W. Anderson, Old Greenwich, Conn.—Beneficiaries: Robert C. Anderson, Percival E. Anderson, Charles W. Anderson, Jr., Annie L. Clark; John Blair Moffett, 1608 Walnut Street, Philadelphia, Pa.—Agent for J. Howard Pew, J. N. Pew, Jr., Mabel P. Myrin, Mary Ethel Pew; Elizabeth J. Bailey and Ellwood B. Chapman, Trustees Estate of James Artman, Deceased, 930 Real Estate Trust Building, Phila., Pa.—Beneficiaries: Franklin Artman, Vera Watters, Alvin C. Artman, Elizabeth J. Artman, Marion A. Pratt, George H. Pratt, by assignment, Edwin Moll, by assignment; Frederick S. Sly, 149-40 35th Ave., Flushing, L. I., N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is . . . (This information is required from daily publications only.)

G. C. BUZBY, Pres. & Bus. Mgr.

Sworn to and subscribed before me this 17th day of September, 1945.

BESSIE H. GARBER

(My commission expires January 3, 1949.)  
[SEAL.]

TAKE THE  
"IRK"

OUT OF  
EVERY-DAY  
WORK

**HALLOWELL**



Fig. 1916-A  
WORK BENCHES  
OF STEEL

Flanged and ribbed steel construction insures absolute steadiness without bolting to the floor. No joggling or teetering to throw your work out of kilter. And these "Hallowell" Workbenches of Steel are ready-made . . . in over 1300 combinations, so you can choose exactly what you want. "Just the thing for my shop," you say? Why not write then, for our free "Hallowell" Catalog which also tells about our other shop furniture.



Fig. 1851

### TOOL STAND

Take all your tools with you wherever you go! Speeds your work . . . you don't have to go hunting for that extra wrench or jack every few minutes. Rugged all-steel construction on easy-rolling casters. There are many other items of "Hallowell" Shop Furniture available.



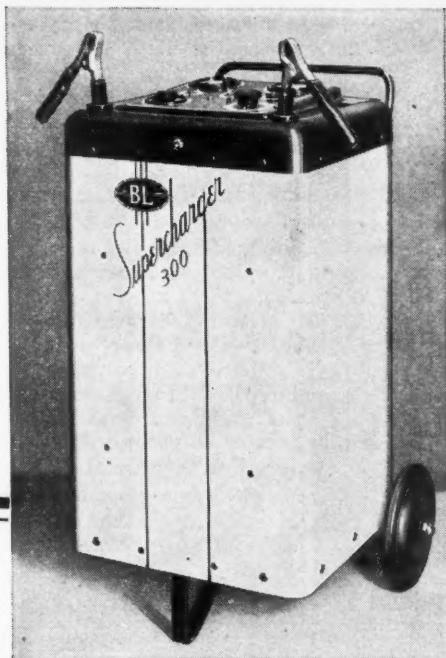
### STANDARD PRESSED STEEL CO.

JENKINTOWN, PA.

BOX 561

Branches: Boston, Chicago,  
Indianapolis, St. Louis, San Francisco  
OVER 40 YEARS IN BUSINESS

The Benwood-Linze Company  
Announces  
**POSTWAR MODEL**  
**B-L SERIES 300**  
**Fast Battery Supercharger**



**INCREASE PROFIT**  
by reducing the cost  
of charging batteries

You can now check the battery as casually as you change the oil and water, or the pressure in the tires, and establish charging service.

*Benwood-Linze Series 300 Fast Battery Supercharger makes this possible. It is an essential part of your equipment.*

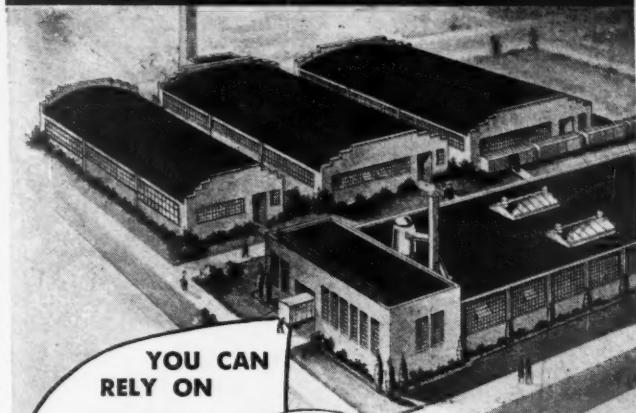
YOU NEED a durable, fast battery charger, simple to operate and maintain, giving quick and effective service. The B-L Series 300 Fast Battery Supercharger supplies this need.

Write for Bulletin 300-V.



**THE BENWOOD-LINZE COMPANY**  
1815 LOCUST STREET ST. LOUIS 3, MO.  
Long Distance Telephone CE. 5830

**A DEPENDABLE  
MANUFACTURING  
SOURCE**



YOU CAN  
RELY ON

**THE**  **LINE**

of Automotive **REPLACEMENT PARTS**



Chefford Master parts will render good service and will show you a good profit.

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**FRONT WHEEL  
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(exchange)**  
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and REPAIR KITS**  
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**HYDRAULIC BRAKE  
PARTS and KITS**  
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and many other parts  
for Cars and Trucks.

JOBBERS: Catalogs and Price Sheets on any or all of these products mailed on request.

**CHEFFORD MASTER MFG. CO., INC.**  
(DEP'T B.)  
**FAIRFIELD, ILLINOIS**

# The Answer is— they're ENGINEERED

THE outstanding performance of Eis Brake Parts is often discussed among mechanics who specialize in brake overhaul.

The answer is: All Eis Brake Parts and cables are skillfully ENGINEERED to do their work right. When you replace with Eis Parts you do a good job for your customer—and a good job of reputation-building for yourself.



EIS MANUFACTURING CO.  
MIDDLETOWN, CONN.

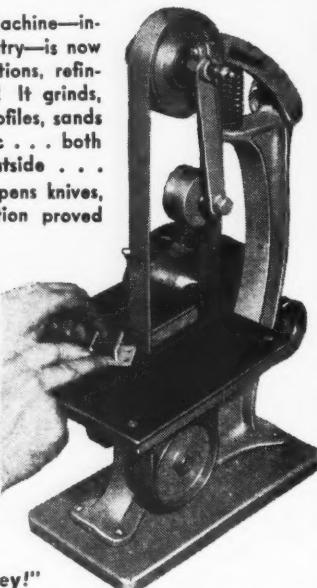


From your jobber  
Write for Catalogs on  
**BRAKE PARTS & CABLES**  
**BRAKE FLUIDS**  
**PRESSURE BLEEDERS**  
**TOOLS & SPECIALTIES**

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This remarkable Mead Burrin Machine—invented for and used by war industry—is now also available to all garages, stations, refinishing and body rebuilding shops! It grinds, shapes, carves, bevels, smooths, profiles, sands and cleans wood, metal or plastic . . . both INSIDE cut-out openings and outside . . . faster, better, cheaper! Also sharpens knives, tools, etc. A handy, war-production proved "Jack-Of-All Trades" tool.

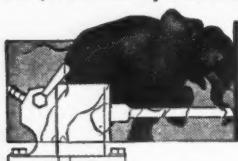
**QUICKLY** Shapes, Sands, Carves, Grinds, Bevels, Profiles, Polishes, Smooths, cleans WOOD, METAL, PLASTICS on INSIDE cut-out openings and outside edges.



**Free!**

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**FAST CHARGER**

Ask Your Jobber or Write Us

**The ELECTRIC HEAT CONTROL Co.**  
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**GOOD "KING" PRODUCTS SINCE 1914**

## Kaiser-Frazer Move Into Willow Run

Joseph W. Frazer, president of Kaiser-Frazer Corp. and Graham-Paige Motors, announced recently that both companies will move to Willow Run and officially take over the operations of the recently acquired bomber plant on Nov. 1.

The companies will occupy all of the approximately 2,650,000 square feet of manufacturing and auxiliary space leased from the Reconstruction Finance Corp. for the production of the Kaiser and Frazer automobiles and farm equipment, Mr. Frazer said.

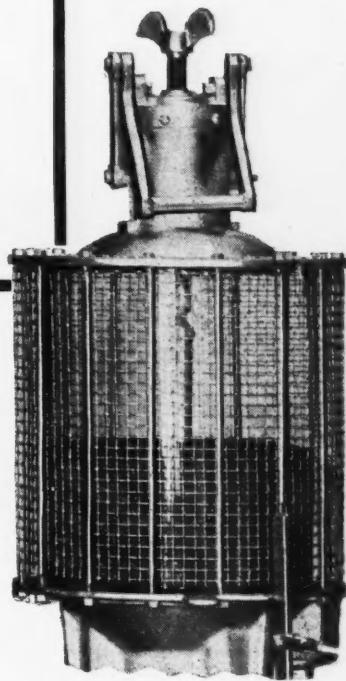
Kaiser-Frazer Corp. has leased all Willow Run facilities with the exception of the hangars, the airport, and other small structures in the vicinity of the landing field.

Production by Graham-Paige at the huge plant will begin shortly with manufacture of the medium-priced Frazer car and farm implements, including the Frazer tractor and the Rototiller, new type rotary tillage machine, Mr. Frazer announced. The Frazer and the farm equipment are scheduled to go into production on or before Feb. 1, he said.

The Kaiser car, named after Henry J. Kaiser, will go into production four to six weeks after the Frazer, he said. The Kaiser will be sold in the low-price field.

## WHAT DOES

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**P-96 SPRAY**  
PIONEER AIRMOTIVE DEGREASER

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1. Spray it on a warm engine.
2. Hose it off. GUNK, grease and water flow away in a non-inflammable, milky emulsion — HARMLESS.

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**Kills TUBES**

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REGULAR DISCOUNTS TO JOBBERS AND DEALERS

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## Annual Safety Awards Made by Auto-Lite Co.

Annual safety awards made by the Spark Plug Division of The Electric Auto-Lite Co. in conjunction with the American Trucking Association will be presented to representatives of 11 truck lines throughout the United States. The awards will be made by a representative of the Auto-Lite Merchandising Division during the annual meeting of the ATA tentatively scheduled for January, 1946.

This year's awards, which is the 11th straight year Auto-Lite has rewarded safety leaders, consists of chronograph wrist watches or combination hygrometer, barometer and thermometer desk sets. Another safety contest is now under way.

First place winners are, Robert I. Gayley, Supplee Wills-Jones Milk Company, Philadelphia, Pa.; R. J. Barry, Galveston Truck Lines, Houston, Texas; A. B. Snavely, Hershey Chocolate Corporation, Hershey, Pa.; Fred R. Suddarth, Kaw Transport Company, Sugar Creek, Mo.; Mrs. Florence Bledsoe, Best Motor Lines, Dallas, Tex.; Joseph Grumme, Silver Fleet Motor Express, Louisville, Ky.

Second place winners include: Harry E. Grimes, Arkansas City, Kansas; Chester C. Loving, Aetna Oil Company, Louisville, Ky.; John Watsker, Alton Box Board Company, Alton, Illinois; Arthur M. Korn, Cushman Motor Delivery, Chicago Illinois, and Everett J. Alger, George F. Alger Company, Detroit, Michigan.

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and  
**PERMANENT**  
*Vulcanized*  
**TIRE & TUBE REPAIRS**  
for natural or synthetic rubber.  
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I AM A MANUFACTURERS' REPRESENTATIVE, selling to the automobile industry. I have represented my present accounts successfully for a number of years and now, with increased organization, find myself in a position to serve one more manufacturer. The manufacturers I represent make only products of the finest quality and any new account I might represent must be able to measure up to these very high standards. If you have a right product and desire a right kind of representation on a commission basis only, please drop me a line at Box 28, Motor Age, Chestnut & 56th Sts., Philadelphia 39, Pa. Your correspondence will be treated confidentially.

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BATTERY TESTERS  
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ELECTRIC MOTORS

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NOVEMBER, 1945

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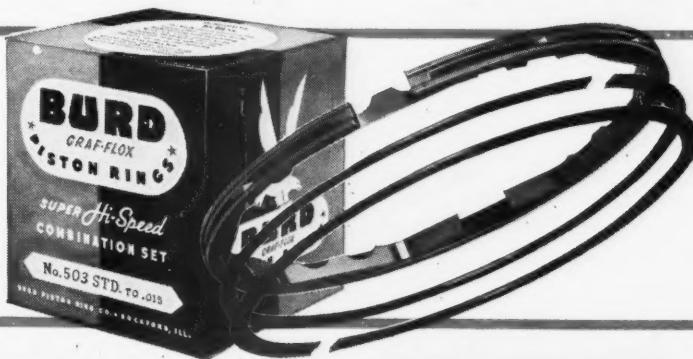
SHE WANTS THE  
SAME KIND OF  
PISTON RINGS PUT  
IN HER CAR AS  
YOU PUT IN OURS

**BURD** "Graf-Flox"  
**MAKES EVERY CUSTOMER A SALESMAN**

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**BURD PISTON RING CO. • ROCKFORD, ILLINOIS**

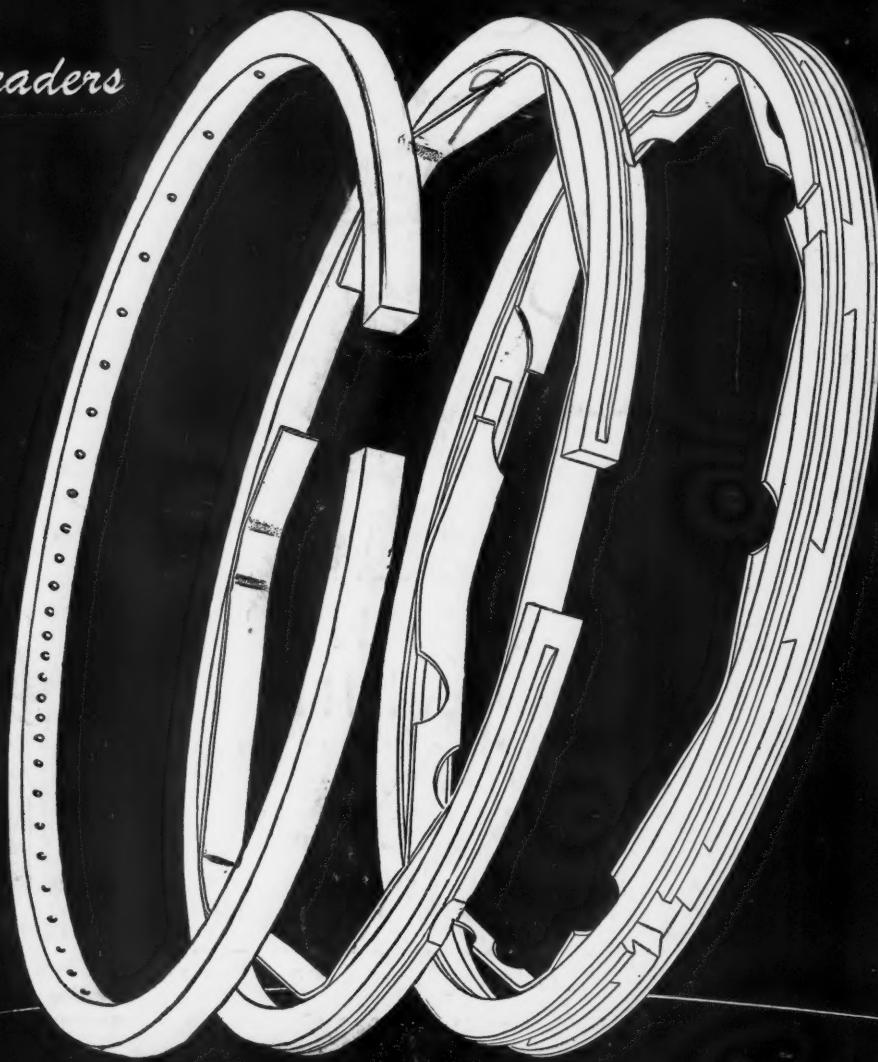
Burd "Graf-Flox" Piston Rings are available in scientifically matched combination sets for practically every popular make or model of car, truck or tractor. These sets remove guesswork and save time and trouble.



Burd's "Super Hi-Speed" oil ring (illustrated) controls oil with precision. Consists of ventilated flexible cast iron ring, two specially designed steel segments, plus a special spring steel expander.

**BURD "Graf-Flox" PISTON RINGS**

*\*Ring Leaders*



Since the earliest days of the automobile, American Hammered has consistently supplied piston rings that are a year or more ahead of the field. Those to whom efficient, economical engine performance is the only standard of piston ring value demand American Hammered! Koppers Company, Inc., American Hammered Piston Ring Division, Baltimore, Maryland.

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